The quality process as a management tool for public transport operators. The example of the EFQM Model through the franchise bidding process in the United Kingdom

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Internship Report

The quality process as a management tool for public transport operators

The example of the EFQM Model through the franchise bidding process in the United Kingdom

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La démarche qualité comme outil de management pour les opérateurs de transport de voyageurs

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L'exemple de l'approche EFQM à travers les procédures d'appel d'offres ferroviaires au Royaume-Uni

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[Résumé]
La démarche qualité prend une part de plus en plus importante dans le domaine du transport public. Les opérateurs cherchent à améliorer la qualité de leurs services et visent la satisfaction de leur clientèle, en parallèle les autorités organisatrices incluent la mise en place de nouvelles démarches qualité dans leurs contrats d'exploitation. Le modèle EFQM se détache des autres politiques qualité de part son approche globale et intégrée. Au Royaume-Uni, il est devenu la référence dans le processus d'appel d'offre du marché ferroviaire. Keolis, installé depuis environ 10 ans au R-U, a développé sa propre démarche EFQM en cohérence avec ses autres certifications et normes qualité. Cette étude apporte des éléments méthodologiques et des exemples concrets pour la mise en place d'une telle démarche au sein d'une entreprise de transport.

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[Summary]

The quality process is a fashionable concept in public transport. Operators try to improve service quality and customer satisfaction, while public authorities impose the implementation of new quality processes in franchise contracts.

EFQM differs from other quality models because of its global and integrated approach. In the UK, it has become the reference in the railway franchising process. Keolis, established in the UK for 10 years, developed its own EFQM approach. This study brings methodological elements and concrete examples of the implementation of this process in a public transport company.

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CONTEXT AND METHODOLOGY

Keolis UK participates in many bids in UK and in other countries. The quantity of work asked during the bid periods is very heavy, and many documents need to be produced in a short time. In this context, Keolis UK gave me the ability to work as part of a VIE during 7 months. My main task in Keolis UK was to follow the bids in progress which were South Central and Dublin.

During the two first months of my internship, I have worked on the South Central bid, and produced databases and graphs using EFQM model in collaboration with Sebastien Coisplet. I was integrated and in constant relation on the GoVia's bid team during this period. This stage showed me the organization and the preparation of a bid document. Afterwards, I made few punctual works about Dublin's bid and other projects. Currently, I'm working on the bid database, and I have to restructure the documentation about bids completed and find a new methodology to improve the access to information for future bids.

Even if I did not have a recurrent theme during this internship, I chose to deal with my first work in Keolis UK, which was the South Central bid. But rather than make a report of my different works, I preferred to stand back and complete my practice with a theorical reflection. That's why I made researches about this topic and I tried to understand the different logics around the quality process.

SUMMARY

INTRODUCTION

Following these different tasks related to the bidding process, I chose to deal with the quality approach. During my work on the South Central bid, I learnt a lot about the importance of quality process for the prequalification stage of the bid. Moreover I understood the requirement of the EFQM model for Keolis' management, and in the bidding process in UK. That's why I opted to link these two aspects. This steers me to this topic and the following problematic:

How quality processes, and especially the EFQM approach, have been integrated and deployed by Keolis, at the level of the whole company, and specifically in the methodology of the railway bids in the United Kingdom?

To answer this question, two aspects are essential to develop: the quality process and the functioning of the bidding process in UK. That's why this study will be divided in 4 parts:

- The first part will present Keolis within the British rail market. This step uses to describe the functioning of the railway industry and to give reference marks to understand the place of Keolis in its context. An overall view of the franchising process will be described too.

- The second part will define the concept of quality in general. This recent notion must be precise at the beginning to know what are the stakes and objectives for the company.

- The third part will show the different quality processes in practice, and how they are structured and integrated by the company. This step meets the two first parts and brings knowledge about the methodology used to implement a quality process.

- The last part will deal specifically with the EFQM approach in railway bids in UK, according to Keolis' point of view. It presents a methodology and a case study which brings a concrete example of the deployment of the EFQM model. Finally limits and perspectives of this approach will be analysed.

This plan permits to begin with a vast topic which is the British rail market and to continue with more precise notions such as the quality and the EFQM approach in railway bids. The third and the last part aim at showing results and perspectives to answer to the initial questioning.

Chapter 1: Keolis UK in the British rail market

Keolis UK Ltd is a subsidiary company of Keolis SA, one of the Europe's' passenger transport leading operators. Keolis is established mainly in France, but is active in 7 other countries, mainly in Europe, and in Canada.

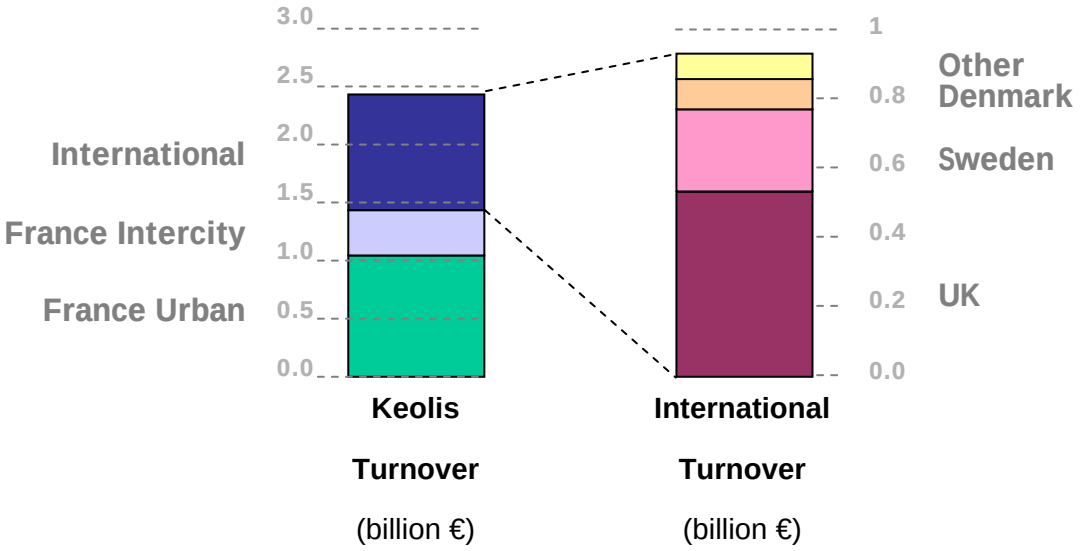

Figure 1 : Keolis turnover by type of transport and by geographical area, source: Keolis UK (2007)

Keolis has been established in the UK market for over 10 years. To integrate the United Kingdom market, Keolis has adopted a successful partnership strategy with British leading operators. Currently, Keolis is associated with Go Ahead and First Group and operates 4 rail franchises. Before dealing with these franchises, it's essential to make an overall view of the UK rail market and the privatization process.

I.1) Structure of the British rail industry

I.1.1: Brief history of rail transport in Great Britain

The railway system of the United Kingdom is the oldest in the world. Although the idea of running freight carts in tracks carved into rock dates back at least as far as ancient Greece, and wooden-railed wagonways originated in Germany in the 16th century, the first use of steam locomotives was in Britain from the beginning of the 19th century. During this century the railway network expanded through the country and a lot of technology improvements

were done. After the Second World War, the railways were nationalized to form British railways. After many decades, the government decided to privatize the network in order to face the passenger level decreasing and government funding cuts[1].

I.1.2: Rail market privatisation

Contrary to the French one, the British rail market is well advanced in privatization. The privatisation of British Rail was the result of the Railways Act 1993 introduced by John Major's Conservative government. The operations of the British Railways Board (BRB) were broken up and sold off. Some parts of the BRB's operations had already been disposed of, by the administration of Margaret Thatcher, in the first years of the 1980s.

At this time the rail industry had the following structure:

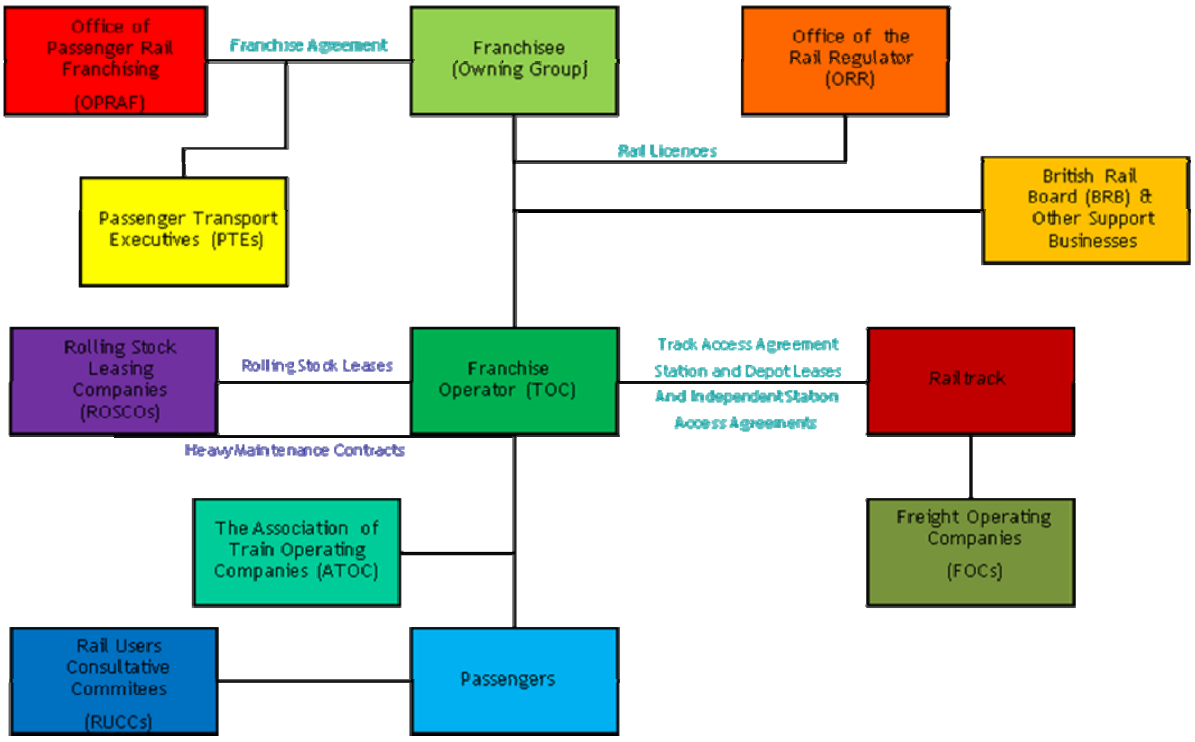

Figure 2: The British rail industry after the Railways Act, source Keolis UK (2007)

[1] Gourvish, Terry (2002), *British Rail: 1974-97: From Integration to Privatisation*, Oxford, Oxford University Press.

This graph illustrates the rail industry structure and the relationships between all the organizations in 1993 after the Railways Act. Firstly, the ORR aims at regulating the railway industry and controlling consumer protection conditions of operators' licenses. The ORR also gives licenses to operate the franchises. The OPRAF manages all the passenger rail transport services and gives franchise agreements to the owning groups. ROSCOs are the train owners, they are 3 in UK: Angel Trains, Porterbrook Leasing and Eversholt Trains (later HSBC Trains). They own all of British Rail's passenger coaches and locomotives and they give rolling stock leases to the TOCs. In the other side the Railtrack is the owner of the infrastructure. It takes over ownership of all tracks, stations and signaling and signs agreements with the TOCs for the track access and stations' and depots' operation. Finally there are 6 FOC's which are divided into geographical areas (South-East, North-East, and West) or into kinds of freight (international, container, parcels, mail, etc.).

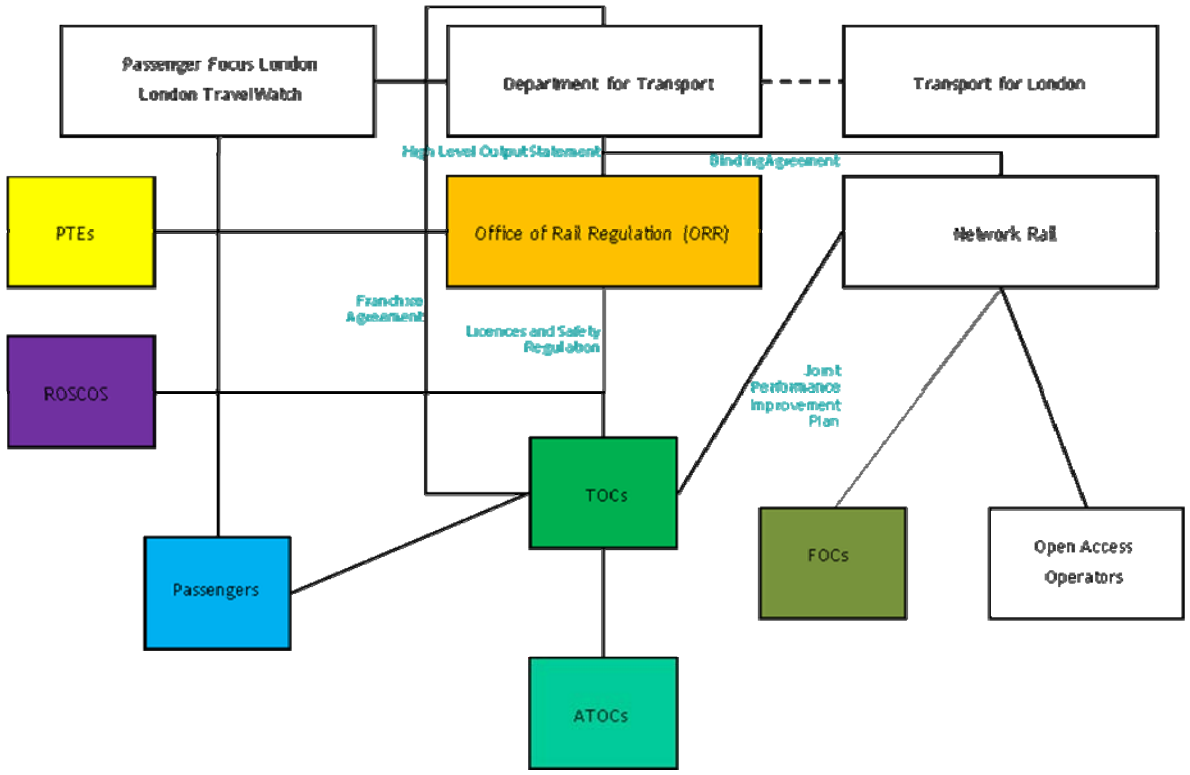

Figure 3: The British rail industry nowadays, source: Keolis UK (2007)

This figure shows the evolution of the British rail industry from the Railways Act of 1993 to nowadays. The white boxes correspond to the new structures created between the Railway Act and now, the colored boxes use the same colors of the previous graph and represent the structures that have been preserved.

The Railtrack was placed into railway administration and its functions were taken over by Network Rail, which is a company limited by guarantee. OPRAF was replaced by the Strategic Rail Authority and after ifs franchising functions passed to the Department of Transport (DfT). Between these two models, the number of passenger franchises has reduced and privatisation has caused many effects which are described below.

I.1.3: Effects of privatisation

All these changes of the British railway structure since 1993 have caused a considerable debate about the effect of railway privatisation. Firstly, the customer service and the safety have been improved by the privatisation despite train cancellations and rail accidents in the early years. Concerning the fares, the price of commuter season tickets has fallen whereas many unregulated fares have increased. Current trains used by TOCs are not more recent than before the privatisation, in spite of the adoption of indifference pricing by the ROSCOs to determine lease costs.

Moreover the privatised railway has not generated improvement in punctuality and reliability. Indeed the large increase of the number of trains while using nearly the same amount of rolling stock and track, have reduced the room for manoeuvre when problems occur. In terms of investment, the privatization permitted a considerable expenditure on modernizing the system, but only on few routes. The funding is a sector in conflict: trying to maximise private sector investment while subsidising and regulating the industry to provide desirable services is difficult to reconcile. Nevertheless, privatisation has brought some private sector investment into the railway, and government subsidy has increased from £2,168m in 1994 to £4,593m in 2005[2]. Finally the franchise profitability is less important than expected because of financial trouble, management contracts and the complexity of the privatised structure which imply additional costs for companies.

As a conclusion the rail franchising system is more complex than the French one, which can generate confusions in responsibilities and incidents for companies and passengers. However, the passenger journeys on the British rail's network have still increased since the privatisation of 1993.

[2] Office for Rail regulation (2006), *National Rail Trends 2006-07: Quarter 2*

I.2) Keolis' establishments in UK

I.2.1: Keolis Franchises

Keolis UK operates 4 rail franchises in UK. Partnerships with Go-Ahead and First British groups have been achieved to integrate the British rail market. Now Keolis is the largest overseas rail operator in the UK and with over 330m journeys, its 4 franchises represent 28%[3] of the rail market.

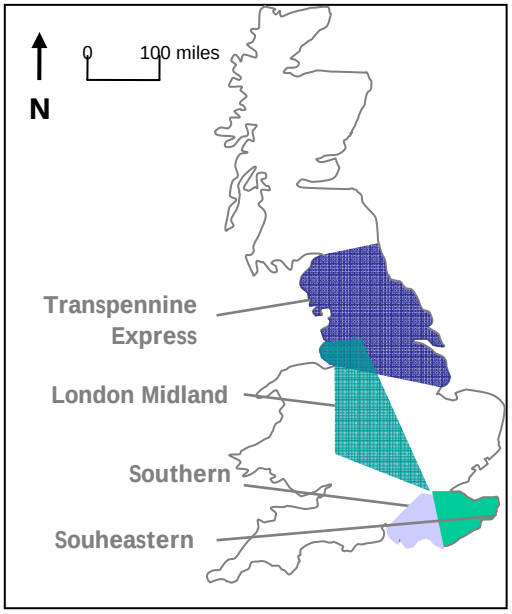

Figure 4: Keolis UK current rail franchises, source: Keolis UK (2008)

A) Southern

Keolis has operated Southern franchise for 7 years in partnership with Go-Ahead to form GoVia. This contract expires in September 2009. This network connects London with the South coast from Brighton to Portsmouth, and has incorporated Gatwick Express service since June 2008. This franchise generates 730m € per year and 130m passengers, and employs 3600 people[4].

The franchise commitments included challenging aspects: the introduction of 700 new vehicles, £115m upgrade of 5 key depots and the improvement of customer satisfaction and train performance. Keolis is now in competition for the new franchise operating and submitted its bid in June 2008.

B) Southeastern

Southeastern is a franchise with nearly the same characteristics as Southern, just a bit larger, and operated by Govia (Keolis and Go-Ahead joint venture) too. It links London to

[3] Keolis UK figures (2007)

[4] Keolis UK figures (2007)

Kent in just 40 minutes and serves the South-East coast. The contract expires in 2014 and generates 780m € each year for 140m passengers.

The main objectives of this franchise were to introduce additional train services to reduce overcrowding and to launch a comprehensive overhaul of the timetable. From December 2009, the franchise will also introduce the javelin services with new high-speed trains and stations, in expectation of the 2012 Olympic Games.

C) Transpennine Express

Transpennine Express is a joint-venture of Keolis and First Group. This is an 8-year contract that expires in 2012. Its network connects Manchester and Liverpool with the North of the country. Although it owns a limited fleet (171 vehicles), the franchise has a revenue around 300m € per year and transits 16m passengers a year.

This franchise is in constant evolution with a lot of investments in stations, depots and new vehicles. Moreover new Manchester-Glasgow-Edinburgh and Manchester Airport services have been introduced. Transpennine Express also won many awards such as the Rail Business of the Year and the Rolling Stock Excellence of the Year in 2006.

D) London Midland

This is the last Govia winning franchise that started to be operating in November 2005. This network contains two kinds of services: a city service between Birmingham and suburban cities and an express service between London and Liverpool.

Many innovations have to be made during next years such as the introduction of new vehicles, the passenger information system implementation and CCTV installation on fleet, and the introduction of Smartcard technology to simplify ticket purchasing.

I.2.2: Keolis in the railway market

So Keolis is active on the railway market in Great Britain. But this market is very competitive and few big groups own the most part the franchises. The table below shows the details for each groups and places Keolis in comparison with the other groups:

Holding Group	Revenue (2007 M£)	Percentage (%)
First Group	*1,059,428*	*23.9*
National Express	*946,440*	*21.3*
Virgin Rail	*564,293*	*12.7*
StageCoach	*468,402*	*10.5*
Sea Containers	*434,442*	*9.8*
Go-Ahead Group	*415,041*	*9.3*
Keolis	*262,858*	*5.9*
Serco/NS	*158,971*	*3.6*
Arriva	*61,423*	*1.4*
Laing	*68,891*	*1.6*

Table 1 :Split of the revenue per holding group in the railway market, source: Keolis UK (2007)

This table indicates the part of Keolis on the railway market in UK. According to this figure, Keolis is the 7th railway operator in UK. But Keolis is also the first overseas group within all the British groups. The rail market is very competitive in UK, and 4 groups own nearly the whole of the national railway, that's why it is necessary for foreign groups to find strategies to access this market. Keolis has chosen to be in partnership with Go-Ahead and First Group to operate railway franchises: however Keolis is a minority shareholder in these franchises, so its room for manoeuvre is reduced.

I.2.3: Other activities

In the other sectors, such as the bus market, Keolis UK owns 20% parts of the Eastbourne Buses where it is in joint-venture with Eastbourne Council. Keolis UK is also in competition for new franchises in the Light Rail market (Nottingham) and in the Rail market (Dublin).

I.2.4: Functioning of Keolis UK

Keolis UK is the subsidiary company of Keolis in UK. It is located in London and employs 13 people. This office is specialized in the management of bids in UK and in other countries, and produces reports of the activities for Paris' head-office. Half of the team work only for the UK's franchises and the other part for the international sector. Moreover few persons work straightaway in the franchises offices and represent Keolis UK in the field.

Even if Keolis UK depends on Keolis SA in many sectors (IT, HR, etc.), it has an autonomous functioning in few sectors: for example it manages itself the financing and the communications around the bids. But comparing to the importance of the business of Keolis in UK, the team is incomplete and needs more resources to ensure the coordination and the reporting of the operations to the head-office, and to develop the activities.

After we have seen the rail privatisation and the activities of Keolis in UK, it's interesting to learn more about the rail franchising system which has been the base of the railway industry since the Railways Act of 1993.

I.3) Rail franchising system in UK

I.3.1: Stakeholders in the rail industry

The UK rail industry is currently managed by 4 main stakeholders who have all a precise role and are in constant relationship. The following figure shows the legal rapports between these stakeholders:

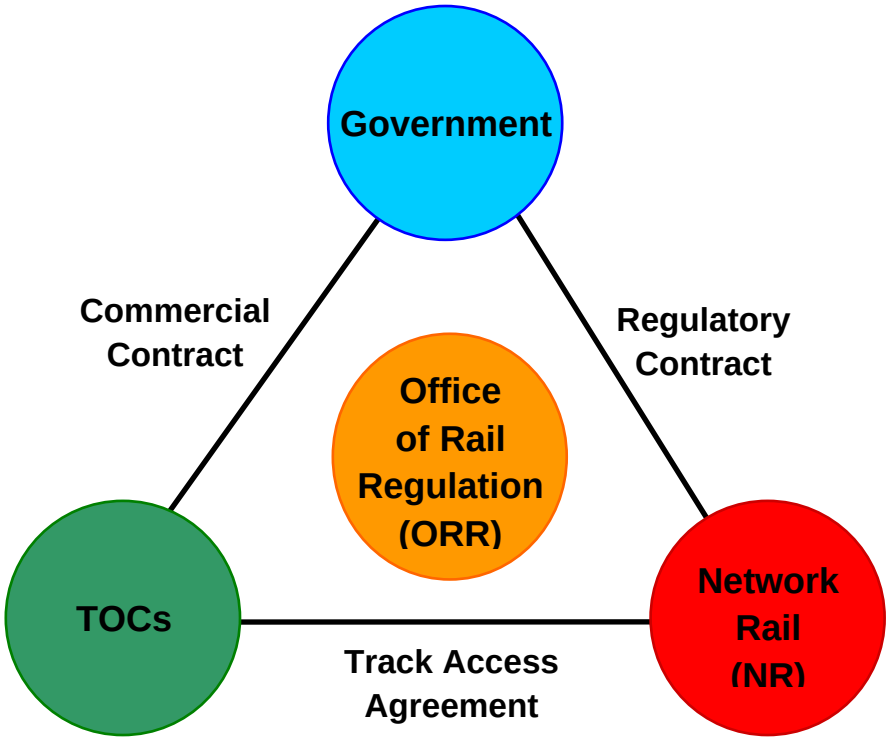

Figure 5: Structure of the UK rail industry, source: Department for Transport (2008)

The Government is represented at the top of the structure because it determines the national strategy and budget, and awards passenger franchises (TOCs) through a commercial contract. A regulatory contract is signed between the Government and the NR which is responsible of the infrastructure and delivers the network. It signs track access agreements with TOCs, which deliver the services for customers. Finally the Office of Rail Regulation (ORR) is located at the heart of the structure but don not need specific contracts with the other participants. The ORR is responsible of the safety regulation and decides cost of rail outputs.

This structure is the base of the franchising system which was the mean introduced by the Government to procure reliable rail passenger services. Since the privatization all the train services have been progressively transferred to franchises. The aim of this measure was to reduce the net cost and increase the value for money for both the passenger and the taxpayer.

Contrary to the nationalization and the liberalization, the franchising system has to be constrained by rules which fix the limits between the public and private sectors.

I.3.2: Franchising process

The rail franchise model is based on the Net Margin approach, that is Government sets service pattern and franchisees decide of fares and take revenue-risk. We can divide the franchising process into 3 stages which are resumed by the 3 following words: "Plan-Buy-Do"[5].

The first step consists in specifying characteristics for each franchise to ensure the provision of a minimum service and to protect passengers through fare regulations and the benefits of a national railway network. For example Government can ask the companies in competition to assess growth in demand and potential to increase revenue. This specification stage has to think about a total product offer, including fares and ticketing, station access, etc. Moreover this step is essential to give bidders as much flexibility as possible.

The second step is the franchise procurement. In this point, the DfT must have a short list of bidders which ensure the most competitive price and a good quality offer in terms of operation and finance.

The last stage of this process concerns the franchise management, in other words the day-to-day management of the franchise contract. For this, the DfT has to ensure that contracted benefits are realized and that the service is delivered in good conditions.

In order to operate the network, the TOC in charge of the franchise has to lease the rolling stock to the ROSCOs, which own all train's fleet. Generally the length of franchise is from 7 to 10 years. This duration permits some return on investment, train refurbishment for the TOCs, and on the other hand allows the government to get regularly benefits of the competition. Sometimes it is possible to introduce overtimes (around 2 or 3 years) in addition to the franchise duration, if the operator meets performance targets.

The new system of the UK railway has brought many changes in the passenger transport of the country. This system permits a constant franchise renewal, where franchises have sufficient resource to bid and to operate the franchise if they win. Even if everything is not perfect the franchise system is working well and involves a lively competition between the TOCs. Few changes in approach have been done in the franchise duration and in the specification details but the system is still fundamentally the same. The Government subsidies guarantee more and more major innovations in franchises.

[5] Department for Transport (2008), *South Central Franchise Replacement Stakeholder Briefing*, DfT, London, 18p.

This system has also permitted to increase considerably the passenger growth, the rail share of travel to (5 to 7%) and the passenger journeys from 800m to 1.1bn (DfT, 2008). The passenger satisfaction is in constant upward trend and more than 80% of the passengers are now satisfied with their journey. For this, the service quality of the system has been improved in many sectors: security, ticketing, station accessibility, staff qualification, etc.

Now it is interesting to analyse the tendering process in practice, and the role of the DfT throughout this procedure.

I.3.3: DfT tendering process

The Department for Transport is the administration responsible of the Invitation to Tender process which objective is to award the rail franchises to the TOCs. And so the DfT has to follow a precise process which contains many chronological steps. The next figure illustrates this process:

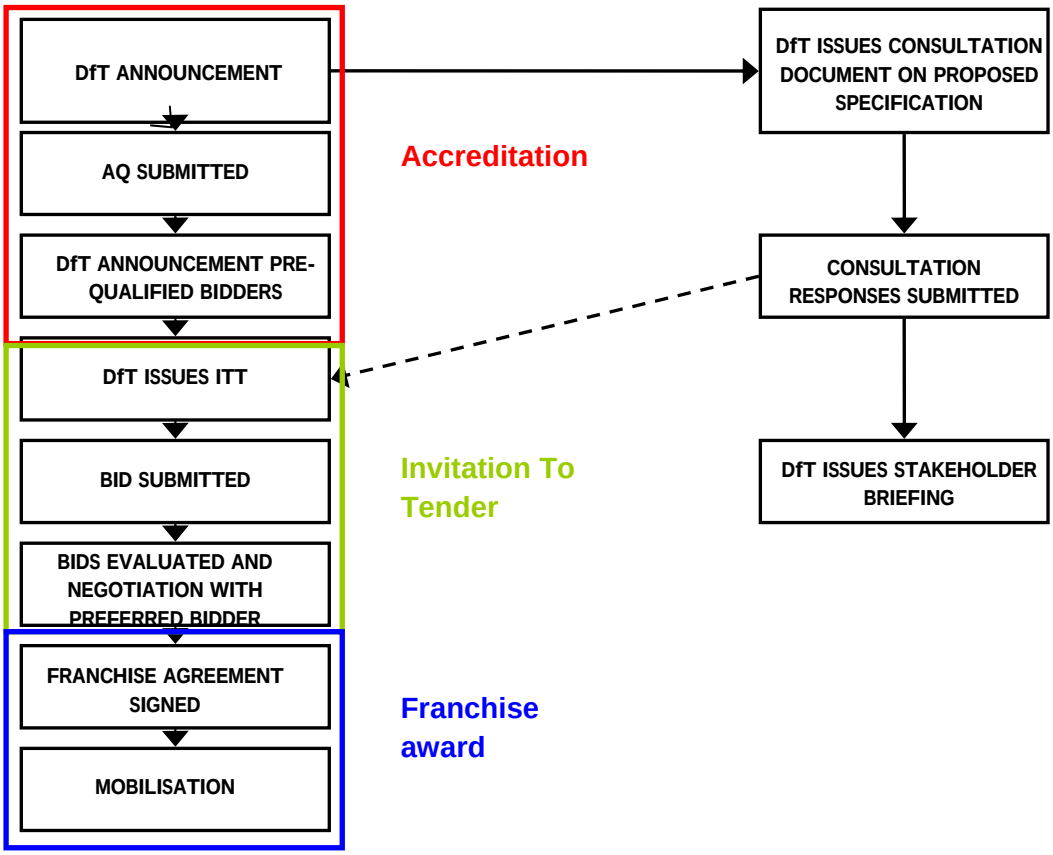

Figure 6: The Department for Transport tendering process, source: Keolis UK (2007)

The first step is the release of a notice which includes a short specification of the franchise content and the procurement programmed dates. Afterwards, advertisements are placed in national and international press, to inform potential applicants. Those who are interested can download an accreditation questionnaire. The purpose of this document is to select TOCs which would submit a bid for the future franchise. The objective is also to ensure the quality of bidders. DfT selects three to five bidders to provide adequate competition, and to reduce the costs. Moreover bidders consider that the probability of winning against more than five competitors is insufficient to justify the cost of bidding.

So this step is essential to certify the quality of bidders. Indeed the Accreditation Questionnaire (AQ) is used to invite applicants to provide evidence of their competence and experience in the operation of railway passenger services. DfT's role is to assess these AQ and put score to each applicant. For this a pre-determined scoring system is followed: the most part of the score concerns the service delivery and financial management in relevant areas of activity. The other part of score is awarded for demonstrating appropriate resources for bidding. The accreditation scoring process involves judgments but is also based on the evidence submitted by applicants in their AQ. For example, this proof will include industry performance data, National Passenger Surveys results and other information about companies such as breaches of agreements.

The past track record is very important in the accreditation step because it shows the applicant experience in the passenger transport field. The track record need not established in the passenger rail market in the UK but also outside the UK and in a different field of public transport for example (bus, tramway, etc.).

Following the accreditation step, the applicants who are accredited will receive an Invitation To Tender (ITT) to operate the franchise. This document includes a base service specification which explains the essential requirements to provide the services such as the main destinations, station management, introduction of a new rolling stock etc. a bid which does not comply with the base service specification will be rejected as non-compliant. In addition to this document, the DfT also requires bidders to submit priced options which are used to anticipate increase and decrease in service level, and Committed Obligations. These documents constitute the Franchise Agreement. Bidders are free to add incremental options which can be investments, propositions in service patterns. The ITT also includes instructions about the bid submission, the delivery plans and financial and operational models.

Finally, the last stage of the process is the franchise award. The DfT, after the evaluation of the final bidders, signs the franchise agreement with the company awarded, which ensure the transition from the former to the new franchise contract that is called the mobilization.

This part was essential to understand the system of the British railway which is very different from the French one. The privatisation was a key fact and brought new improvements and changes. Today roles are well determined and stakeholders are integrated on this system. Keolis has an interesting position on the railway market but need to find a sustainable strategy to stay active in UK. The quality is one of the aspects of this strategy, that's why we will analyze how it's possible to grasp this notion in public transport.

Chapter 2: The evolution of quality process in public transport

Quality policy in public transport can be apprehensive by many ways: firstly by the customer, who uses the public transport service and needs to be convinced that this service is more efficient than the individual car. According to the public authority, the quality process is a mean to promote mobility and quality of life. That's why it has to develop public transport in its territory to reduce the use of car and to be in keeping with a sustainable approach. Finally the liberalization of the public transport market involves to the operator to improve constantly its performance to stay competitive. Before dealing with these three points, it's important to have an overall view of the quality process in the public transport sector and its integration by all the stakeholders.

II.I) The concept of quality in the transport field

At the end of the 1970's, which was characterised by the triple convergence of industrial quality, standardisation and consumer protection, the ISO set up the "quality management and quality assurance" committee[6]. The next step was the introduction of the ISO 9000 standards in 1987, which were originally applied in the industrial sector, then in service companies. There are two majors issues linked with the transition from industrial to service quality.

The term "quality" is very vast, but in the transport field we can precise what kind of quality is used, and how we can measure and assess it To define this word, we can analyze these three affirmations according to the UITP:

- The quality is to say what we will do, do what we said and check continually that what we did is in accordance with what we said.
- The quality is a managerial approach which is targeting to improve constantly services and realization processes of these services.
- The quality aims at improving to create customer loyalty and increase their service consumption.

[6] *ISO TC 176 Committee, http://www.iso.org*

If we put these three definitions together, we can give this shorter explanation: the quality process is the constantly improvement of the service relation between the customer and the service supplier company, in order to answer to the customer expectations.

But we can also develop a different vision of this quality, which can exist between the company responsible of the service and the customer. In this case we can analyse the relationship between these two stakeholders thanks to the diagram below:

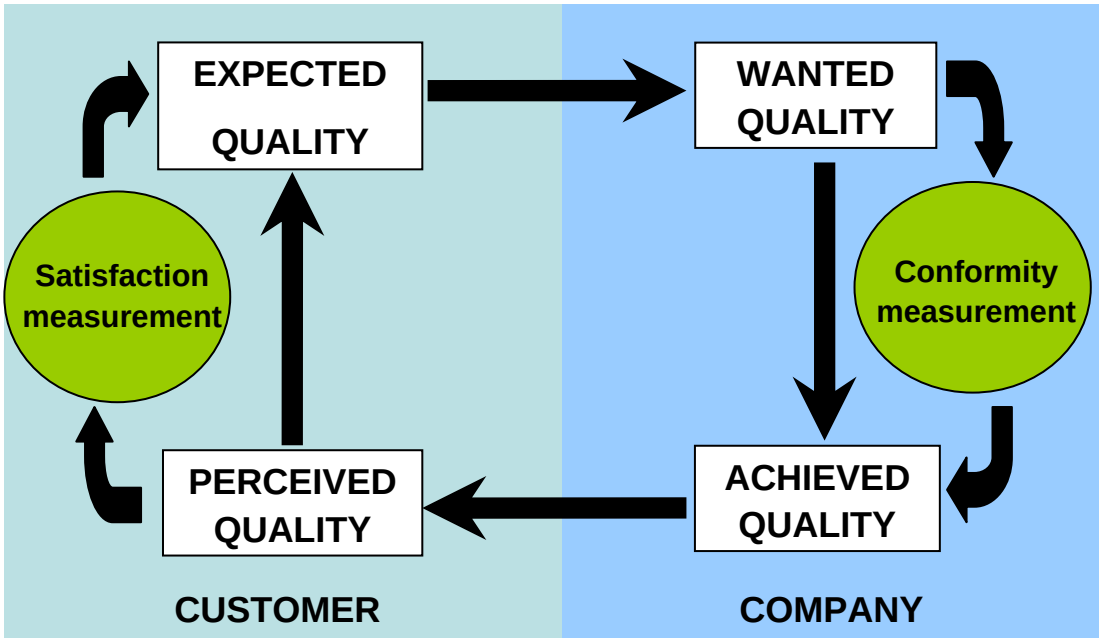

Figure 7: The quality cycle, source: UITP (2003)

This figure is divided in two parts: the left part represents the customer or traveller, and the right part corresponds to the company. 4 kinds of quality are in relation on this diagram. The most important quality is the expected quality because it represents the service which must be normal and legitimate according to the customer. That's why the company has to know or assess this indicator to anticipate the customer need. For this it has to put itself in the client position and consider its service with detachment.

For the customer the other kind of quality is the perceived quality. The latter is the quality which is assessed straightaway by the user when he travels. For example a delay or a breakdown of the system can be considered as abnormal. At the opposite a public transport system which can provide a better offer than an individual mode in terms of price, rapidity

and comfort, can be weighed up as a reliable service. But all of these aspects depend on each customer so it's hard to estimate exactly how the customer perceives the system.

If we compare these two kinds of quality it's possible to measure the customer satisfaction, which is the main objective of quality processes. More the gap will be great between the both, less the customer will be satisfied by the service.

In the other part of the figure, if we take the point of view of the company, we find the wanted and achieved quality. The first one expresses the expected quality which is the company's and authority's ambition and commitment on the service to deliver. It takes into account the customer expectation and the strategic choices of the actors.

Related to this indicator, the achieved quality is the result of the action of the professional stakeholders. More precisely we can find in this part, the number of passengers, the accessibility and the regularity of the service, etc. The gap between the achieved and the wanted quality expresses the system reliability and the ability to reach the objectives.

The fundamental element of this system is to define the most precisely the researched quality by the customer. This step is essential to understand the quality process like a management tool, which aims at improving and assessing constantly the system reliability. The advantage of this method is that we can use it at all the levels of the service execution, and the tools used are coherent.

So the optimal quality is the meeting point between all the stakeholder needs. Contrary to the industrial quality which is a target defined with precise criteria, the service quality is managed differently, according to the objective of the company. That's why it's interesting to understand how the company integrates this process in its working and what approaches can be used to develop the service quality.

II.2) The integration of quality process by public transport operators

II.2.1: The different kinds of quality process

The quality process is managed by the private operator which is in charge of public transport networks. Even if it doesn't have the mastery of all the processes of its services because of numerous external factors, the company is the entity which knows the best the different aspects of the service quality. But the company can not define its quality policy without the participation of all the stakeholders such as the public authority and the customers.

Indeed the company can use a lot of methods and processes to implement its quality policy. That's why it has to choose which one is the best and the most adapted according to the context and the will of the company. We can distinguish two kinds of approaches which involve different actors:

- The contractual indicators deal with all aspects which depend on the operators and authorities and are decided between these two actors.
- The partnership indicators are implemented for all the aspects which require the involvement of many actors (customer, company, associations, etc.).

These two approaches can be completed with different measurement tools and certifications with which they are coherent:

- The quality charter provides to the customer the commitments which define the service quality. It is a link between the customer and the operator, and its main objective is to satisfy the user.
- The process certification is a management tool. It implies the definition of strategic objectives by the company and needs a sufficient organization and resources.
- The service certification allows the company to check if its quality level is in accordance with the level exigencies. It can deal with a line, a service, a line set, or a network.
- The overall quality approach, such as the EFQM, is a model which represents the organization of the company according to 9 criteria and is used to assess the progress of an organization towards the excellence.

All these approaches and tools need to be structured around different criteria and require specific means which are indispensable for the implementation of the quality process.

II.2.2: The means devoted to quality

A - Human means

The development of a quality policy requires the contribution of the whole company to integrate and implement all the steps of the new process. For example, the company can create work groups, organize training for its staff or develop its internal communication. Sometimes it can be interesting to create a specific team which has to set up this process or to create new services which will interface with the customer, such as a centralized customer centre).

B - Costs

The certification process generates specific costs due to the advice services of the responsible organization, and audit costs. But the company has also to devote a part of its budget for the public communication to inform and share its new commitments with the users.

Whatever the policy set up by the company, these processes need constant efforts and new managerial methods. Hence this notion of costs is not easily quantifiable for the company and depends on the scale and the context of this process.

C - Investments induced

The respect of the new commitments about regularity or traveller information often needs new investments to set up sustainable solutions and accompanies the process succeed. The public authority is usually responsible of these investments, which are decided before the operational phase, to let sufficient time for the implementation of the quality process.

II.3) The criteria definition: an essential step for the quality process

II.3.1: Which criteria for which objective?

Each of these approaches has a specific aim and applies to different actors. But the private company has the main role in this system and must find the criteria and indicators which will be the most pertinent according to the local context and the company objectives.

This notion of criterion is very wide because it must recover all the elements of the quality process. Moreover they must be hierarchical and coherent themselves. According to the customer point of view we can classify these criteria in eight groups (Kuhn and Kauv, 1999):

- Service offer
- Accessibility
- Information
- Time
- Attention to customers
- Comfort
- Security
- Environmental impact

So as to structure and to form into a hierarchy all these criteria, it is important to classify them by groups and to see which of the three stakeholders (customer, company, and authority) can be directly assigned by each criterion:

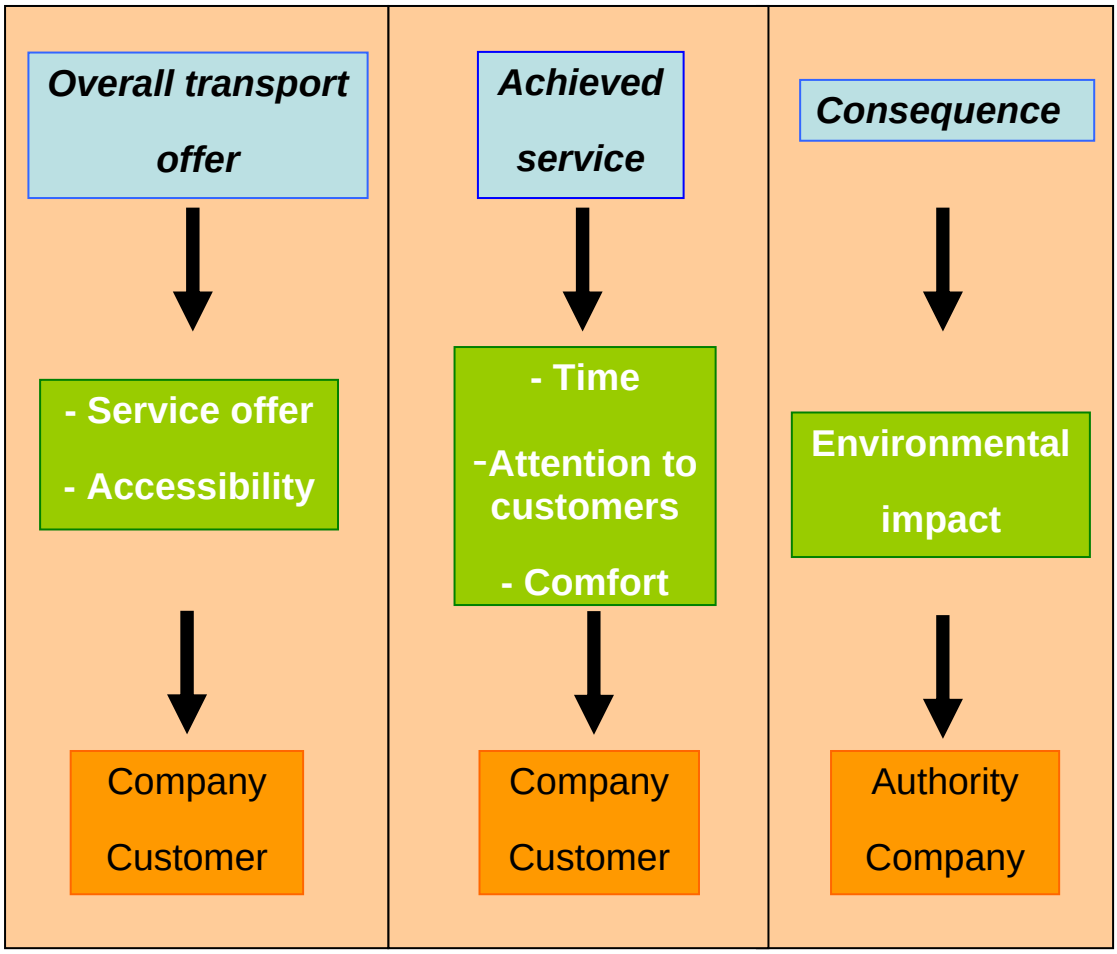

Figure 8: The criteria hierarchy in quality process, source: personal production

This figure shows the three different categories of quality criteria. The first column represents the overall transport offer which gathers the main issues such as the service offer, accessibility and information. This group of criteria is linked with the company and the customer. Indeed the company provides this service and the customer uses it.

The second column is the achieved service. This one measures service results and reliability through 4 themes: time, attention to customers, comfort and safety. The company and the customer are assigned by these criteria. We can integrate this group in the perceived quality which was explained before.

The last group is the consequence of the service on the territory. The main criterion which appears is the environmental impact of the service: it includes for example the energy

consumption. This criterion affects mainly the authority and the company which invest in the system. The customer is not directly involved in this category even if he can measure himself the impact of the service on the environment. Nevertheless it's not this criterion which will obstruct him to use or not the transport system.

But it is hard to classify perfectly all the criteria. Sometimes criteria can be integrated in many groups. For example information and attention to customer can be linked to the company staff. Indeed it has to provide information about the transport service when people need it. Hence this information must be adapted and reliable. If the information satisfies the customer, he will think that the company takes him into consideration.

Sometimes these criteria are chosen by the company which sets up a new quality process. Otherwise these indicators are defined by the association responsible of the quality process. In these two cases this step is very important because it decides which sectors will be targeted and developed by the company.

All these criteria are used to define the quality service of a public transport network. The user or traveller is the measure unity of the conformity. This one can be divided in three main thresholds:

- The reference service that is the usual service which is expected by the customer.
- The exigency level: this is the service needed by the user to use the public transport service whereas the car. This level exigency must be the target of the private company.
- The unacceptability threshold: it is the level service beyond the customer can't accept to use the service. For example a bus which comes in advance or a bad information at a station.

II.3.2: The service quality around central criteria

As we have already seen, the service quality is hard to define because there is a gap between the customer needs, the private company motivation and the politics choices.

Moreover this definition of quality can change depending on the country where it is implemented. Many surveys have been realized on this topic and show surprising results.

For example, a comparative analysis[7] shows that in France the first criterion cited is safety. Indeed around 40% of people surveyed cite it as the main criterion. If we compare these results with the Switzerland, especially with Geneva, 3 criteria are cited with an equal importance: the network structure, frequency and punctuality.

But inside this country we can find different results according to the agglomeration and the type of urban fabric. For example the more people will live next to of the centre of the agglomeration, the less they will cite the safety as the main criterion. Moreover the results change significantly according to the city. Agglomerations such as Lyon and Paris don't have the same percentages of safety whereas they have a lot of common points. We can think that the city size is not enough to define which criterion will be the most important for the population. That's why it would be interesting to know until which population number, or in which urban form, safety will be the most cited of all the criteria. But maybe it doesn't have any rationality in these results. The image reflected by the network sometimes explains the feeling of the people.

II.3.3: The target of service quality

In a service like the public transport, we can find 3 kinds of people:

- People who use the service, which is the customer. They are not the main target of service quality, but it's important to win the loyalty of these users.
- People who don't use and have a negative opinion of the public transport. So the aim of service quality is to influence this population who organises these activities around the car use.
- Finally the third group is people who don't use the system but have a positive opinion of it. This group is the most important of the 3 because one of the main aims of a quality policy is to encourage captive people (who have not deliberately chosen to use public transport) to take public transport even if car could be a better solution.

[7] Jemelin Christophe (2004), *Qualité de service des transports publics et mobilité urbaine: pratiques et représentations, Analyse comparative franco-suisse*, doctoral thesis No. 2905, Lausanne, EPFL.

The essential question is to know if quality processes are appropriated for these three groups. Even if the company has to think about the daily service and concentrates its efforts in the customer using the service regularly, it also has to know why people don't use the service and how can it change the opinion of the non users or dissatisfied people.

The figure below is a summary of this first part. It presents the two different kinds of qualities: the industrial and the service quality. The second one is harder to explain that's why it has to be more developed.

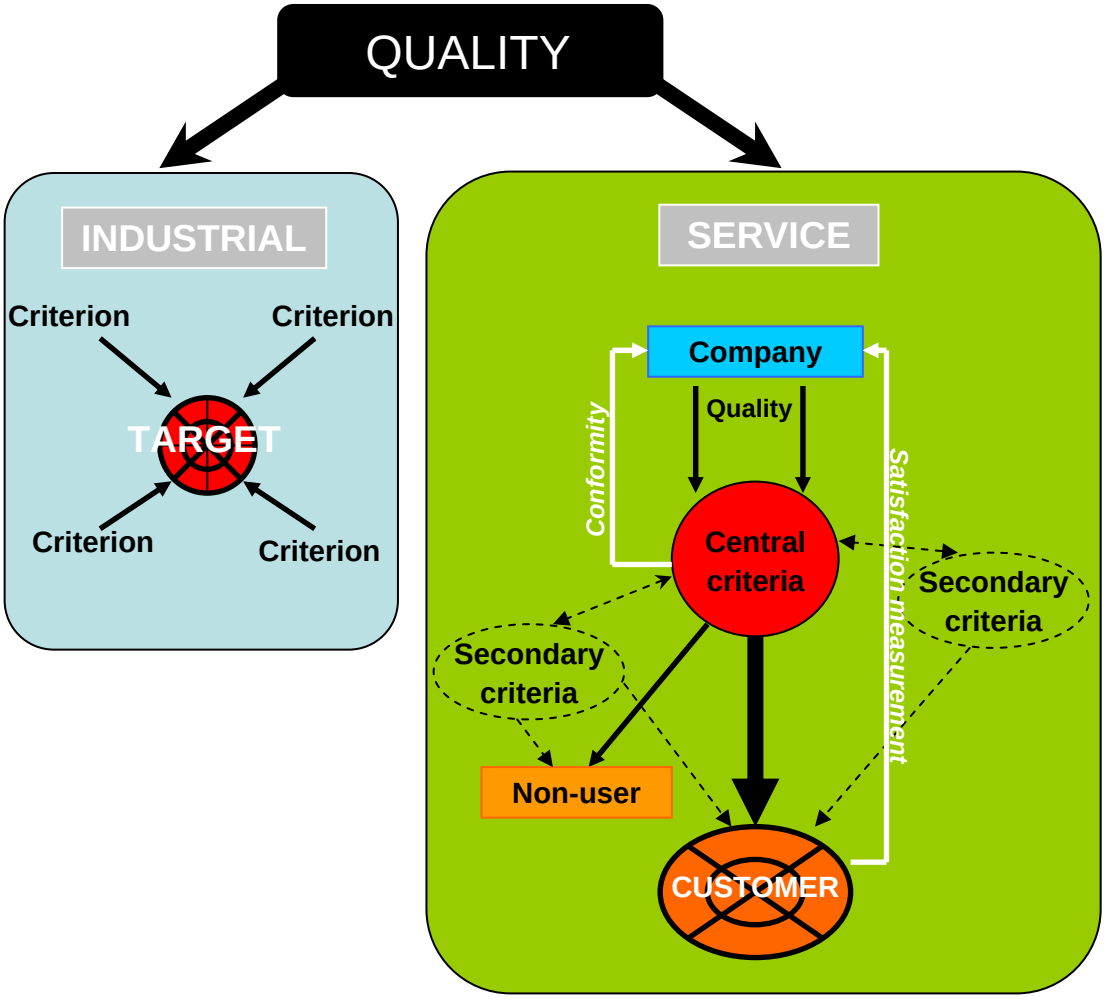

Figure 9: The two different quality processes, source: personal production

As we can see on this figure, the industrial quality aims at targeting an objective through many criteria. The company has to manage its staff to reach this target. And so it decides different criteria which will certify the quality of production. This schema is simple because the company is the sole actor of this process and it can control itself the different steps.

The service quality runs a more complex process. Firstly, the company launches a new service quality process. This is structured around central criteria and secondary criteria which are coherent and complementary. When all these criteria are defined, the main target of this quality process is the customer, and the secondary target is the non-user of the public transport service (with a negative or positive opinion). The white arrows show the two different feedbacks which are generated by this process. The first arrow represents the conformity measurement. It is used by the company to assess its results comparing to the criteria. The second arrow shows the satisfaction measurement which is the gap between the expected and the expected quality. In developing this service quality, the company can have a better perception of the customer's opinion and respond easier to its expectations.

As we've seen in this second part, the service quality is more difficult to explain than the industrial quality. A service provided by a company can not have always the expected effect. According to the customer practical and its personal vision of public transport, a new service can be misunderstood if it is not coherent with the development of the network. That's why the quality process must be accompanied by an overall management which anticipates the customer needs and is in constant research of the best approach.

However we need to put forward the different ways to develop a quality process to understand how the company implements it and what its means are. So we will have an overall view of all the quality approaches and certifications which exist in order to compare them and find the links between all these models.

Chapter 3: The implementation of quality approaches in public transport

For the last decade, quality policies have been placed on the centre of many company management processes. The integration of these approaches has been made when companies wanted to diversify, innovate and find new fields of application.

In public transport, there are a lot of quality policies. Each process offers a different approach which uses its own certifications, criteria and labels. Moreover each procedure must be coherent with the other one, especially if the company decides to launch many processes in the same time.

In this part we will analyse these different processes to have an overall view of the service quality applied to the public transport networks, before understanding what are the links between them and how can they be used as management tools to improve the efficiency of the company.

III.1) The European Foundation for the Quality Management approach

First of all, it can be interesting to begin with the most recent of all the quality processes. Furthermore this approach will be more listed in the last part in a case study dealing with transports bids.

III.1.1: Historical marks

The European Foundation for the Quality Management (EFQM) is a non lucrative association created in 1988 by 14 leading firms from Europe. Its main task is to develop and to encourage the sustainable Excellence model in Europe, and its vision is a world where European companies distinguish themselves thanks to their Excellence approach.

After 15 years of promotion of this model in the European organisations and development of the fundamental concepts with the national bodies, the EFQM gathers currently 800 organisations, which are divided in the most of European countries and sector activities.

III.1.2: EFQM model definition

The EFQM model is a *"non prescriptive framework based on 9 criteria, which can be used to assess an organisation's progress towards excellence"*[8].

The excellence is a remarkable practical of management and results implementation based on fundamental concepts including the results and customer orientation, the leadership, the staff implication, etc.

The main principle of the model is: *"Excellent results with respect to Performance, Customers, People and Society are achieved through Leadership driving Policy and Strategy that is delivered through People, Partnerships and Resources and Processes"* (EFQM, 2003).

The schema below expresses the EFQM through the 9 criteria which are divided in two categories: enablers and results:

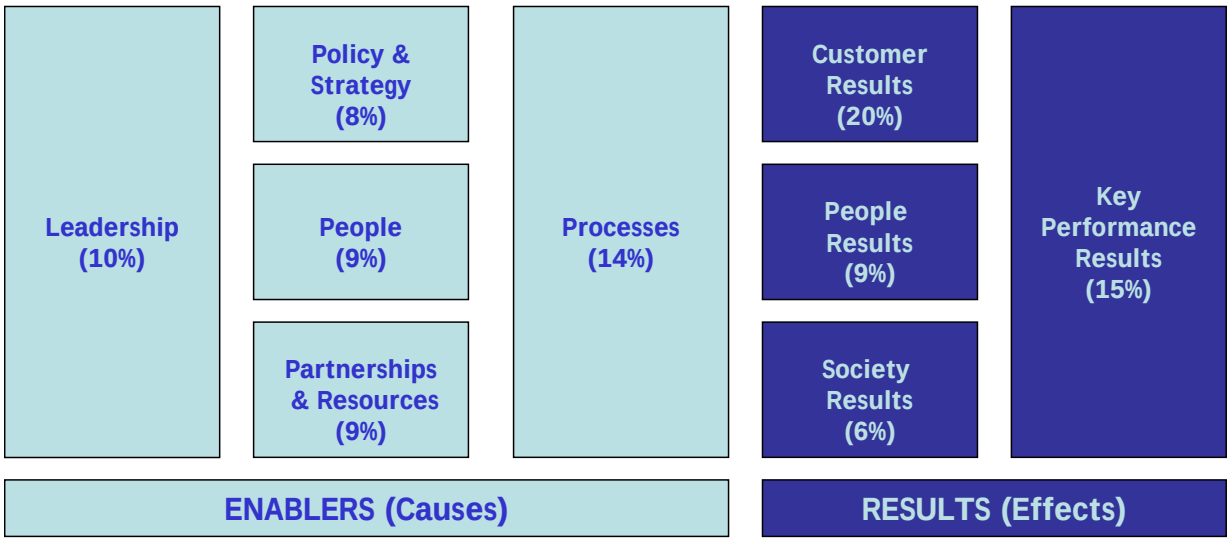

Figure 10 : The EFQM Excellence Model, source: EFQM (2003)

[8] EFQM (2003), "Introducing EFQM", EFQM, Brussels, p5

The enabler criteria are concerned in how the organisation undertakes key activities, whereas results criteria are interested in results achievement. Each criterion has its own percentage. It is used for assessing applications for the European Quality Award. Organisations can use more appropriate percentage according to their own organisation.

Now we can define each criterion one by one before analysing this overall process (EFQM, 2003):

- Leadership: leaders develop the mission, vision values and ethics and are role models of a culture of excellence. They are personally involved in ensuring the organisation's management system is developed, implemented and continuously improved. They interact with customers, partners and representatives of society. They identify and support organisational change.
- Policy and strategy: they are based on the present and future needs and expectations of stakeholders. Moreover they are based on information from performance measurement, research, learning and external related activities. They are developed, reviewed and updated. Finally they are communicated and deployed through a framework of key processes.
- People resources: they are planed, managed and improved. People's knowledge and competencies are identified, developed and sustained. People and the organisation have a constant dialogue. They are rewarded, recognised and cared for.
- Partnership and resources: organisations have to manage and plan external partnerships, suppliers and internal resources in order to support policy and strategy. They balance the current and future needs of the organisation, the community and the environment.
- Processes: they are designed, managed, and improved, using innovation in order to fully satisfy and generate increasing value for customers and other stakeholders. Product and services are developed according to customer needs and expectations. They are produced and delivered. Customer relationships are managed and enhanced.
- Customer, people and society results: Organisations measure and achieve outstanding results, thanks to perception measures and performance indicators.
- Key performance results: Organisations measure and achieve outstanding results with respect to the key elements of their policy and strategy.

III.1.3: The fundamental concepts of excellence

The EFQM model is based on few main principles which are defined precisely. Nevertheless these concepts can be adapted according to the company which sets up this approach. The following definitions explain what excellent organisations have to accomplish to tend to the Excellence.

A) Results orientation

Excellent organisations are flexible and responsive as stakeholder needs and expectations change, often frequently and quickly. They monitor their experiences and perceptions, and the performance of other organisations. Information is gathered from both current and future stakeholders. This information is used in order to set, implement and review their policies, strategies, objectives, targets, measures and plans, for the short, medium and longer term.

B) Customer focus

They know and intimately understand their customers who are the final arbiters of product and service quality. They also understand that customer loyalty, retention and market share gain is maximised through a clear focus on the needs and expectations of both existing and potential customers. They monitor competitor activity and understand their competitive advantage. They effectively anticipate customers' future needs and expectations and act now in order to meet and exceed them. They monitor and review the experiences and perceptions of their customers in order to respond quickly and effectively. Finally they build and maintain excellent relationships with all their customers.

C) Leadership

They have leaders who set and communicate a clear direction for their organisation. In doing so they unit and motivate other leaders to inspire their people. They establish values,

ethics, culture and a governance structure for the organisation that provides a unique identity and attractiveness to stakeholders. During times of turbulence they display a constancy of purpose and steadiness that inspires the confidence and commitment of their stakeholders. At the same time they demonstrate the capability to adapt and realign the direction of their organisation in the light of a fast moving and constantly changing external environment.

D) Processes and facts

Excellent organisations have an effective management system, which has to deliver the needs and expectations of all stakeholders. The implementation of the policies, strategies, objectives and plans of the organisation are enabled and assured through a clear and integrated set of processes. These processes are effectively deployed, managed and improved on a day-to-day basis. Decisions are based on reliable information relating to current and projected performance, process and systems capability, stakeholder needs, expectations and experiences, and the performance of other organisations. Risks are identified based on sound performance measures and effectively managed. The organisation is governed in a highly professional manner, meeting and exceeding all corporate external requirements.

E) People development and involvement

They identify and understand the competencies needed, in order to implement the organisation's policies, strategies, objectives and plans. They recruit and develop their people to match these competencies and positively support them throughout. Personal development is promoted and supported allowing people to realise and unlock their full potential. Moreover they prepare people to meet and adapt to the changes required of them both in terms of operational changes and personal capabilities. They seek to care, reward and recognise their people in a way that builds their commitment and encourages their loyalty to the organisation. They maximise involvement of their people through shared values and a culture of trust and openness, and use it to generate and implement ideas for improvement.

F) Learning, Innovation and Improvement

Excellent organisations continuously learn, both from their own activities and performance and from that of others. They capture and share the knowledge of their people in order to maximise learning across and within the organisation. There is an openness to accept and use ideas from all stakeholders. People are careful to guard their intellectual property and to exploit it for commercial gain, where appropriate. Their people constantly seek opportunities for continuous innovation and improvement.

G) Partnership development

The changing and increasingly demanding world of today success may depend on the partnership developments. That's why excellent organisations seek out, and develop, partnerships with other organisations. These partnerships enable them to deliver enhanced value to their stakeholders through optimising core competencies. These partnerships may be with customers, society, suppliers or even competitors. Partners' work together to achieve shared goals, supporting one another with expertise, resources and knowledge and build a sustainable relationship based on mutual trust, respect and openness.

H) Corporate Social Responsibility

Excellent organisations adopt a highly ethical approach by being transparent and accountable to their stakeholders for their performance as a responsible organisation. They promote social responsibility and ecological sustainability both now and for the future. The organisation's Corporate Social Responsibility is expressed in the values and integrated within the organisation. They meet and exceed the expectations and regulations of the local and the global community. As well as managing risk, they seek out and promote opportunities to work on mutually beneficial projects. They are aware of the organisation's impact on both the current and future community taking care to minimise any adverse impact.

III.1.4: The EFQM's implementation

All these criteria and concepts are the base of the EFQM model. To achieve their ways to the excellence, organisations have to integrate and understand these elements. But the list is not meant to be exhaustive and these concepts will change as excellent organisations develop and improve. That's why it can be better to create a specific management team which masters these concepts and can exceed this approach to propose a personalized model for the company.

The execution of this model depends on the organisation objectives. Indeed the EQFM approach is a practical tool that can be used in different ways[9]:

- self-assessment: they can analyze their own results and determine its strengths and weaknesses.
- benchmark: they can compare their results and processes with the other companies and they can also evaluate their different subsidiary companies together.
- improvement: they can identify the sectors and methods that can be enhance for the short, medium and long term.
- common vocabulary: the management team can exchange and share easily performance indicators and problematical.
- management system structure: this model can be used to find a new company's organisation that implies all the staff and exploits all its resources effectively.

Each company which sets up this model can choose its own objectives among this list. Sometimes they are obliged to follow specific processes because in some countries the EFQM model is obligatory. For example in United Kingdom, companies have to make a self-assessment to participate to the Invitation to Tenders. This aspect will be developed in the last part. Now it's important to study the other quality processes, which can be complementary of the EFQM model.

[9] KEOLIS (2006), *La politique qualité et ses applications locales*, KEOLIS, Paris, p

III.2) The other industrial and customer certifications

The EFQM model is just one of the tools of the quality process. A lot of other certifications have also existed since the 1980's. We can divide these processes in two main groups: the industrial and the customer certifications.

The first one are the oldest processes, they have been created in 1970 in United States of America in the nuclear sector. Afterwards many other certifications appeared progressively in the European companies in the 1980's.

III.2.1: The industrial processes in public transport

A) Historical marks

During the World War 2, there were quality problems in many British industries such as munitions, where bombs were exploding in factories during assembly. The adopted solution was to require factories to document their manufacturing procedures and to prove by record-keeping that the procedures were being followed. The name of the standard was BS 5750, and it was known as a management standard because it specified not what to manufacture, but how the manufacturing process was to be managed. In 1987, the British Government persuaded the International Organization for Standardization to adopt BS 5750 as an international standard. BS 5750 became International Standard Organization (ISO) 9000[10]. In the last decades the market globalization and the exchange increasing implied the necessity of an international standard.

In France, the quality process deployment has been late. At the beginning this process was considered as too pettifogging, and needed to be simplified. That's the reason why the quality assurance was created and defined on the ISO 9001-9002-9003 norms in 2000. It underlines the importance of management implication for the global quality and expands the norm with the service production.

[10]John Seddon (2000), *A Brief History of ISO 9000: Where did we go wrong?*, Chapter one, 2nd ed., Oak Tree Press, Ireland

B) Main principles

The main objective of the ISO process is to take into account all the stakeholder interests such as manufacturers, users, consumer groups, governments, and organizations. ISO 9000 gathers many systems of quality management. The ISO 9001 is a procedure that covers and monitors all key processes in the business. It checks output with appropriate action where necessary, and regularly reassesses individual processes and the quality system, to facilitate constant improvement. The ISO 9004 expresses the guidelines for performance improvements. The ISO 9002 and 9003 have been integrated into the ISO 9001 from the 2000 version.

This current version is the third one (after 1987 and 1997) and has followed the evolution of the quality. Now the ISO 9000:2000 leads to a management system based on excellence and sustainable development. This new version also involves more strongly the general management of the company which needs to define precisely its strategy, to deploy it, and improve constantly its management system.

The other kind of ISO, the ISO 14000, is a series of international standards concerning environmental management. It was created on the Rio Summit on the Environment in 1992. As the ISO 9000, many standards had been developed from the ISO 14000, and provide guidelines about specific environmental issues: audit, material, labels, targets.

C) Process

This process can be described with three main phases:

- Firstly, the need for a standard is usually expressed by an industry sector that transfers it to a national member body, and then to the ISO. Once the need for an International Standard has been recognized and formally agreed, the first phase involves definition of the technical topic of the future standard. This phase is usually carried out in working groups which comprise technical experts from countries interested in this subject.

- Once agreement has been reached on which technical aspects are to be covered in the standard, a second phase is beginning during which countries negotiate the detailed specifications within the standard. This is the consensus-building phase.

- The final phase comprises the formal approval of the resulting draft International Standard, following which the agreed text is published as an ISO International Standard.

D) The ISO implementation for service companies

To obtain the ISO status, a company needs to accomplish different steps[11] that all must be validated. Firstly the company has to assess the existing quality processes and compare them to the appropriate ISO exigencies. After that it has to identify corrective actions to be in accordance with the ISO standards and to prepare a quality assurance scheme. The new processes have to be defined, documented and carried out, and an assurance manual is required, which one will be analyzed with the register office. In the end an official assessment visit is organized and the certification is delivered if all the steps are validated.

[11] www.ic.gc.ca/epic/site/stco-levc.nsf/fr/h_qw00040f.html

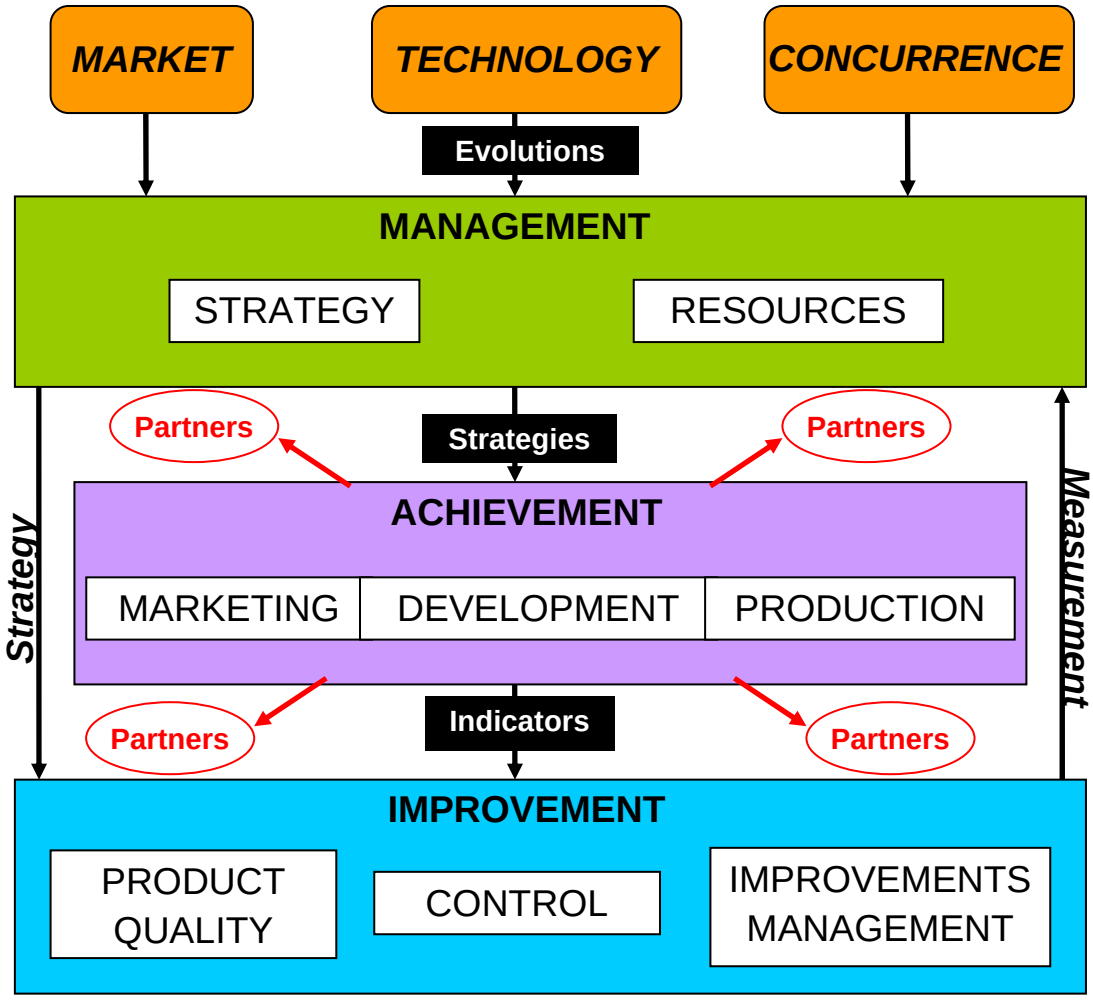

Figure 11 : The example of the ISO 9000:2000 implementation, source: Strabex (2005)

This diagram shows the mechanism that can be set up by a company when it executes an ISO 9000:2000 standard. It is divided in 4 parts that are represented by the 4 horizontal levels.

The 3 orange rectangles are the external factors that evolve through the time and influence the company choices in terms of management. This management system (green rectangle) includes the strategy and the resources. It is the way in which the company will evolve in the future.

This system is straightaway linked to the achievement (purple rectangle) that comprises the marketing, development and production sectors. This level is the interface with all the partners such as customers, suppliers and shareholders. The company has to manage the satisfaction of all its partners. This is also the core of the company, where all processes and researches are developed. This sector supplies indicators that are used to improve the management system.

The improvement level is the final stage of this model. It corresponds to the strategy deployment: product quality, control and improvement management are the 3 components of this sector. Each of them is used to implement this new organization. From this level the management system can be assessed and measured thanks to internal audits and compliance actions.

We can observe that it is a dynamic system. Indeed changes linked to the internal and external environment of the company are taken into account. The different processes are not fossilized and the company can adapt the system with its own approach. We have seen that the ISO was an industrial process that is coherent with the quality evolution and allowed the company to think about a new management system that encourages the constant improvement with all the partners at the heart of the scheme.

III.2.2: The service processes in public transport

The end of the 20th century was marked by a strong economics development of services. The main consequence was the creation of new job positions and a deep evolution on the working world. Nevertheless the service sector is very competitive and there is a lack of transparency between customers and service suppliers. That's why service providers, who wanted to acquire the customer confidence, asked the AFNOR to develop a service certification, called NF service.

NF Service is one of the certification norm delivered by the "Association Française de Normalisation" (AFNOR). It certifies the service's quality, reliability and efficiency. It is a mean for the customer to assess and to ensure that the service he used responds to quality exigencies. This norm is in accordance with the quality characteristics defined in the certification rules of its own activity field.

In public transport, the NF service certification aims at attesting that the service is in conformity with the exigencies of the public authority and user. The rules are established by brand committees which gather the different stakeholders of public transport: consumer,

authority and company representatives, the certifier organization and the administrations. Each brand committee is restrained by global texts at different scales and subjects[12]:

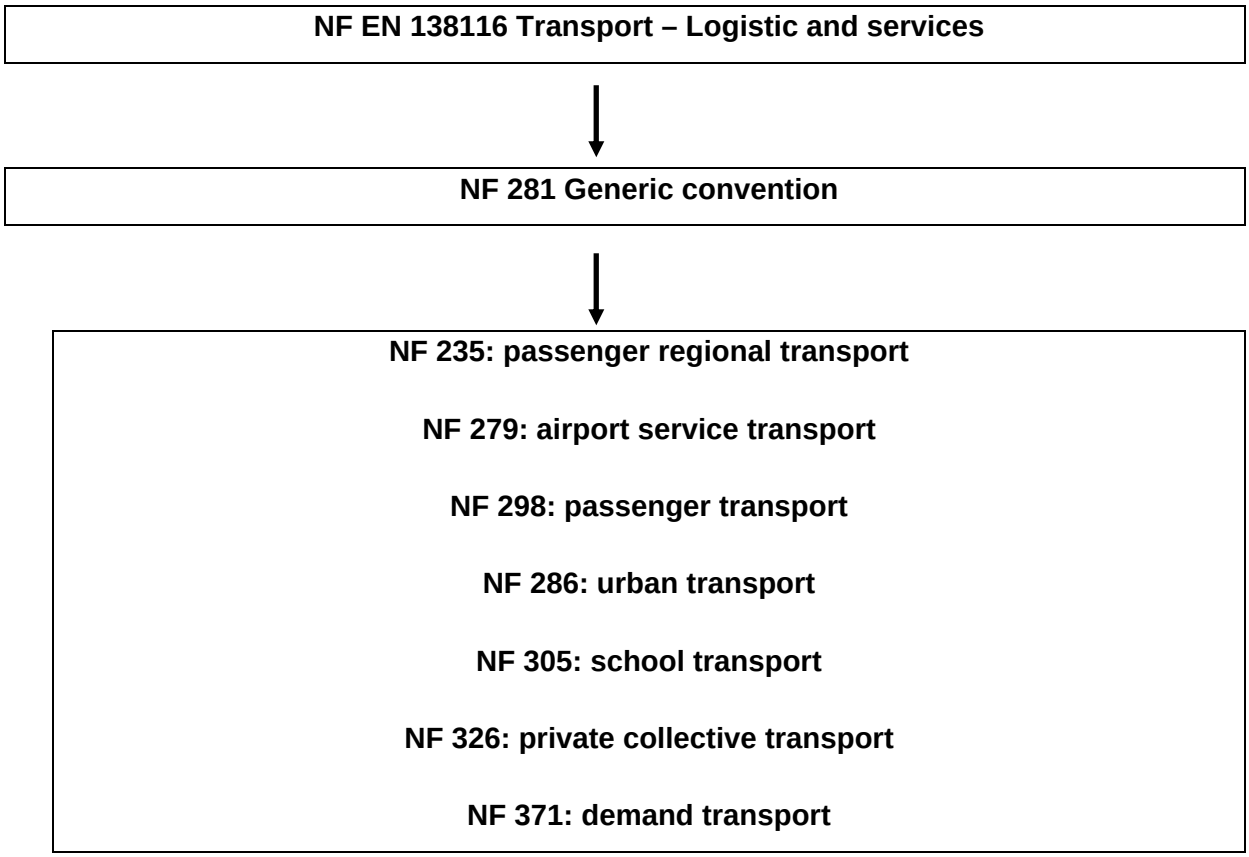

Figure 12 : The different NF Service subjects, source: personal production

A) Process

The obtaining of the NF certification is quite long, because it is a real management process that must be perennial in the future. It requires a partnership work between the different shareholders. Nowadays the service quality is primordial for the company, the authority and the customer. Moreover most of the new contracts between private and public sectors integrate the implementation of a certification process.

[12] KEOLIS (2004), *La certification NF Service*, KEOLIS, p4,

B) Example: the certification of an urban bus line

An example of a certification of an urban bus line is essential to understand the process and the implementation of a NF Service certification. The bus line range is integrated in the urban traveller transport rules. The company which launches this kind of certification has to respect criteria that correspond to the convention of urban traveller transport. So the obligatory criteria reserved to certify a bus line are:

- station information
- bus information
- service offer information
- driver attitude
- regularity, punctuality
- on-board equipments availability
- rolling stock reliability
- bus cleanliness
- loading rate
- driving comfort

These criteria are essential for all lines and services which the operator is asking a NF Service certification. Afterwards, the company has to respect the specific fixed criteria. However it can define itself the commitment level and the reference service. To obtain the certification, the company has to reach the level exigency for at least 2/3 of these criteria. Finally the operator has to contract to complementary criteria. These one are not assess as part of this NF Service certification, but there are taken into account in the development process of the company.

The time estimated for a NF Service certification is about 2 years. The main steps are:

- Staff training: certification and quality process, quality criteria implementation and follow-up
- Definition of the service commitment body
- Action plans implementation (after the first measures)

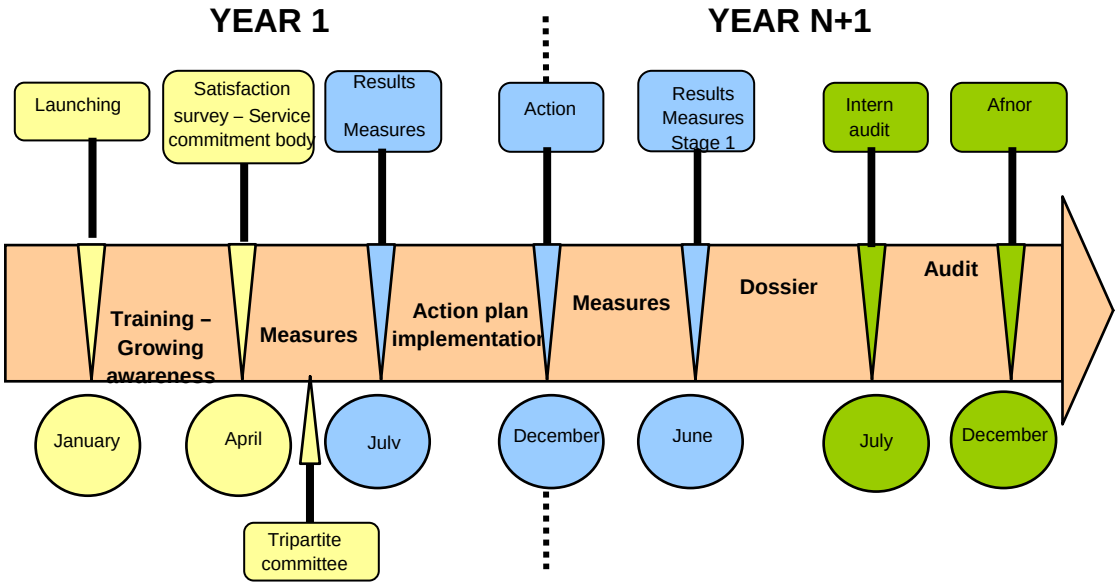

Figure 13: The NF Service certification steps for a bus line, source: Keolis (2001)

This figure represents the 3 fundamental steps of a NF Service certification for a bus line. This approach is used by Keolis in its management system. The first step consists in integrating the certification and the new quality process in all the sectors of the company. In this step the company also takes into account the customer expectations through satisfaction surveys. The measures allow assessing the service quality as the user feels it.

The second step is the implementation of the action plan. It is the core of the process. In this step the company has to find new methods to respond to the measures of the tripartite committee. In one year it has to propose actions which will be pertinent and will be in accordance with the perspective of the committee.

Finally the last step concerns the examination of the dossier and the intern audit, which lead to the AFNOR Certification if all the steps have been approved. But the procedure doesn't stop after 2 years. Every year, an AFNOR auditor comes to assess the results of the company, control the quality, and decide if the certification can be renewed.

This relationship with an external organization is a proof of the quality obtained towards the customers, the authority and the employees of the company. This process is also a chance to develop a sustainable partnership between the authority and the operator on

behalf of customers. Furthermore thanks to this NF Service Certification, the company will be able to evolve its organisation in order to improve the quality and to cooperate with the different stakeholders.

III.2.3: Comparison of the quality processes

After the analysis of two main quality processes, it is interesting to compare these two approaches to understand their differences and their common points.

	ISO 9001 – 2000 version	**NF Service**
Standard type	International and generic standard	French norm, specific to the public transport
Field of application	Company	1 line or 1 service
Commitment	Organisation	Results
Approach	Process	Service commitments
Participant	Company	Staff, traveller associations, local authority
Certification subject	Company	Service

Table 2: Comparison between ISO 9001:2000 and NF Service, source: Keolis (2001)

This table shows a comparison between the two service quality standards through many criteria. As we've already seen, the ISO 9001:2000 is about the company organisations and how it will implement a new management system whereas the NF Service deals with the service concept, and involves a partnership between all the public transport stakeholders. That's why we can say that the ISO 9001:2000 is a process standard and the NF Service is a result standard.

III.3) Structuring between quality service models

This study of all this quality service processes permits to understand why public transport companies decide to launch these kinds of approaches. Now it's interesting to see how these processes are connected, structured and how they are integrated as management tools for the company efficiency. For this, the EFQM model, which is a global management approach, can be used for the structuring base. From this model, we can locate where the other quality approaches are.

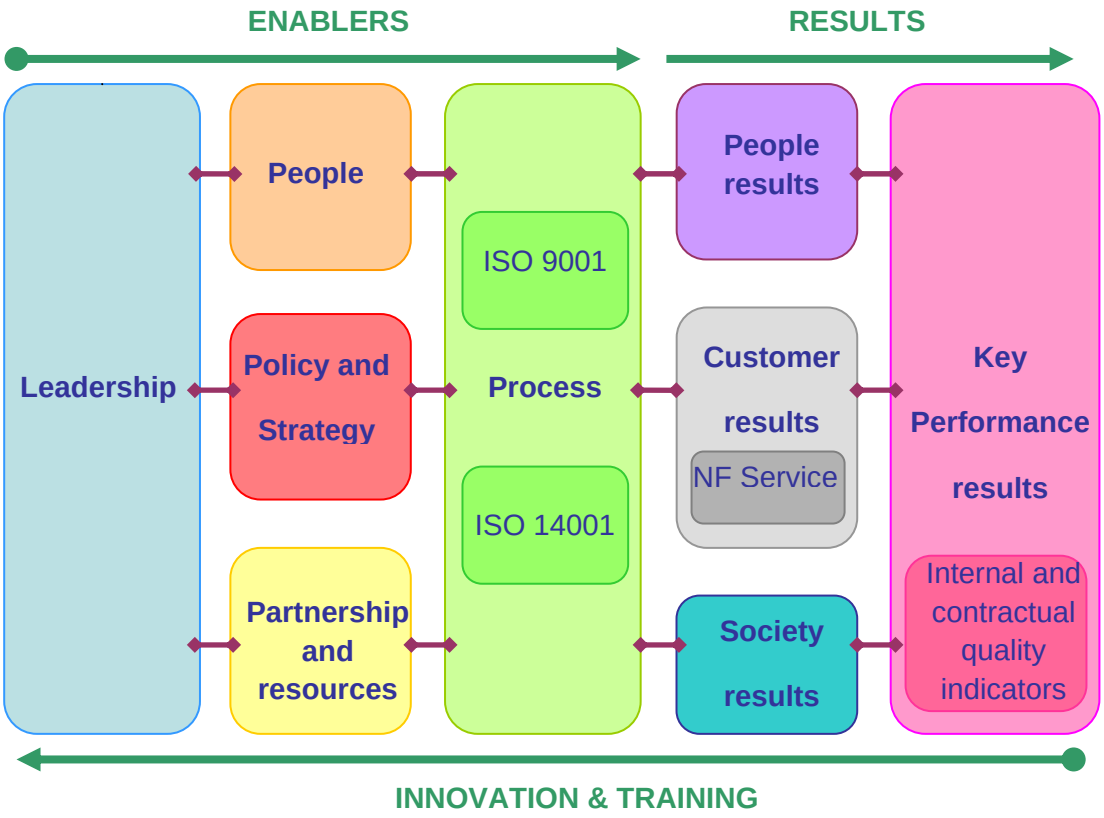

Figure 14: The integration of service quality processes within the EFQM approach, source: Keolis (2005)

This diagram represents the structuring of all the service quality processes for a public transport company. The ISO standards concern the process lever and integrated as an efficiency enabler. The NF Service certification is associated to result commitments concentrated on customers. Finally the follow-up of internal and contractual indicators is located in the key performance results of the company.

The other quality and certifications processes, which can be specific to the company, can be integrated in different levers of this model. Actually more the quality process is transversal and integrated, more it concerns different efficiency levers of the EFQM model.

III.4) The quality process as a management tool for the company performance

As we've seen previously, the quality policy is fundamental in the management system of a public transport company. This quality policy contains different quality service commitments concentrated on 6 kinds of processes. These processes can be classified from the less to the most demanding in terms of stakeholders:

- internal indicators
- contractual indicators
- quality customer charter
- process certifications (ISO)
- service certifications (NF Service)
- global quality approaches (EFQM)

From all these processes, it is interesting to see how they are used by the company to improve its efficiency. In that way we will be able to respond to the following question: how the quality process can be considered as a management tool for the company's performance? For this, it is pertinent to divide these quality management processes in 3 steps:

	OBJECTIVES	MEANS	RESULTS
Internal and contractual indicators	- Develop the working quality of the company - Associate the staff to the results, the authority	- Measurement indicators - Efficient control - Human presence	- 10% additional revenue - Better productivity - No social contestation - Optimization of the investments
Process certifications	- Mobilize the staff around quality criteria - Significant profit-sharing scheme	- Constitution of a quality team - Consumer service	- Gas and waste consumption profit - New investments - Better quality of information
Service certifications	- Recognition of the working quality - Offer a visible service quality - Passenger growth	- New employments in the quality sector - Work groups - Increasing of the budget (quality process, AFNOR services)	- Sensible revenue growth - Better internal communication - Better staff motivation
Global quality approach	- Create a common language to share the efficiency questions - Auto-assess and measure the evolution of efficiency criteria	- Constitution of a quality team - Building of a corporate knowledge	- New system of management - Sustainable quality process

Table 3: The different steps of quality processes, source: Keolis (2005)

This table illustrates the implementation of 4 different quality processes. Each one needs a specific method and provides different results. The global approach, which corresponds to the EFQM model, integrates many aspects of the other certifications and indicators, but involves the company in a sustainable quality process contrary to the other processes which have a reduced duration, but provide significant results.

III.5) The role of Benchmarking through the quality process

In public transport, the quality process takes a significant part and permits the company to improve constantly its performance. Even if companies use many criteria and indicators to assess their results, they always need other references to set up the best strategies. These one are not always certifications or norms, but can be quality management tools, such as the benchmarking.

III.5.1: Definition

For the last decade, a new notion has appeared in the marketing sector, called "Benchmarking". This is a "structured approach used to identify actions that lead to the superior performance"[13]. According to the UITP, Benchmarking is a tool used to:

- compare operational performance
- understand best practice
- attain measurable performance improvements

To sum up, it is a real management method that serves as base to assess performance. In addition to its analysis and comparison dimensions, the benchmarking can also have a dynamic aspect. Indeed the efficiency comparison with other companies can not resolve problems if there is no a real action to improve its management. That's why the company which launches a benchmarking approach needs to identify the best methods and adapt them in its own functioning.

III.5.2: Process

We can divide the benchmarking process in 4 main steps:

- Planning and data collection: this first step is used to define the purpose of the benchmarking and the most appropriate partners to lead the comparison analysis. It

[13] http://www3.imperial.ac.uk/, consulted on 08/07/2008

is also important to choose which criteria and data will be measured and who will collect them[14].

- Data analysis: this stage permits to identify the best practices of the other companies and find how we can implement them in our own activity.
- Integration: it is the identification of necessary changes needed to match and exceed the benchmarks analyzed in the previous step. For this, new efficiency aim has to be defined and identify changes required to reach it.
- Action and assessment: it is the development of the action plan defined in the previous step. The aim is to implement findings and check that the performance gaps are reducing.

III.5.3: The different kinds of benchmarking

The benchmarking can be divided in two groups: the internal and the external benchmarking. The second one will be developed more, because of the numerous process types it concentrates.

A) Internal benchmarking

The internal benchmarking is carrying out inside the organization. It can be a first useful experience before launching an external benchmarking. It has the same objectives as the other one in terms of concepts, methods, process analysis and comparison. The advantages of this approach are that the information is easily accessible. Moreover the identified solutions and this overall approach can be implemented quickly by the company. On the other hand information concern only the environment of the company and can be truncated or oriented to defend personal interests. A risk of auto satisfaction is also conceivable if the objectives of the benchmarking are not pertinent and ambitious.

[14] CERTU (2001), *Analyse comparative dans les sytemes locaux de transport de voyageurs*, CERTU, Lyon, p9

B) External benchmarking

	Competitive	Functional	Organizational	Process	Strategic
Analysis and comparison objectives	Different concepts and methods	Own functions with similar functions	Improvement of the organisational activity	Adaptation of the process operation	Adaptation of winning strategies
Partners	Direct concurrents	No competitive organizations in the same sector	No competitive organizations in the same sector	Leading organizations in the same sector	Leading organisations or associates
Use	Punctual or permanent		Highlighting of the internal failure		Strategic reflection improvement
Advantages	Partners easily identified and motivated Performance gaps quickly visible	Partners easily identified Solutions easily adaptable	Organization methods questioning	Quick identification of key successful factors	Decision help Accessible information Permanent exchange
Inconvenients	Data collection and share	Limited comparison (quantitative aspect)	Limited comparison (administrative aspect)	Hard to identify partners	Hard to identify partners

Table 4: External benchmarking typology, source: Nevaoconseil (2005)

This table deals with the different external benchmarking that can be used according to the context and the objectives. It can be completed with another approach: the cooperative benchmarking. This is the last type of benchmarking and the following of a strategically benchmarking which is carried out with associated partners. It permits a constant questioning and the most creative of the benchmarking processes. Nevertheless, a sustainable partnership with the other organizations is required to launch this method.

III.5.4: The benchmarking as a tool for quality improvement

The different benchmarking approaches are linked to the service quality and can be integrated in an overall quality process. For example the EFQM model can be compatible with a benchmarking. Indeed it's interesting to know the best methods and practices of the competition that are the enabler part of the EFQM model. Before this, the company has to know its own process perfectly. Then when it has found the good partners, it can find the most pertinent findings and implement them in its management.

In this part, the main quality processes have been described and analyzed. Even though they are all different and have various objectives, these quality processes can be complementary. Moreover they are not only used to improve the customer satisfaction, but they can be strong management tools for companies. In the last part, we will give a concrete example of the implementation of an EFQM approach through a case study.

Chapter 4: Deployment and limits of these approaches on British railway bids for Keolis

In this part we will deal with the railway bid process in UK according to Keolis point of view. The objective of this part is to show the link between railway franchise system and the quality process with a concrete case study.

IV.1) The EFQM approach in railway bids

IV.1.1: Context

EFQM has become the preferred quality system of the franchise bidding process in the UK and a competitive EFQM score can now be considered to be a prerequisite for prequalification (EFQM submission forms the largest part of the Accreditation Questionnaire with 70%). Progress on EFQM is necessary and must be rapidly accelerated in the UK due to its growing importance as a screening tool in the bidding process. Moreover an annual EFQM self-assessment must be submitted by the franchise to the DfT.

According to the companies, EFQM can be a long-term objective and a final step in the quality process to integrate many other standards such as ISO or NF Service and incorporate them in a long term development of the management system of the company. That's why it's important to understand the methodology used by the companies which take part in a railway bid.

IV.1.2: Methodology

The EFQM, as we've seen previously, is a global approach which involves the company as a whole and leads its management.

The example of Keolis UK is interesting to understand the long process to integrate this approach in the bid methodology. In 2004, Keolis SA wanted to adopt this model which was including in its sustainable development report. With the increase of EFQM principles' use in the UK franchise bidding process, Keolis needed to improve its EFQM approach and make its own vision of this model.

Keolis, which usually operates franchises in partnership with other companies, submitted many documents structured around EFQM principles. The problem was that Keolis was always a minority partner, so it had to follow the guidelines of its partners and couldn't undertake a real scheme of company strategy. Little by little, Keolis identified improvement opportunities for its EFQM approach. For example the competences and expertise of the company could be better presented.

Consequently the company decided to produce its own EFQM style document in preparation for the next franchise competition prequalification process. This must demonstrate greater examples of Keolis experience. Moreover this text must have been of a sufficient standard to secure its place in the top five competitors that will successfully prequalify for the next franchise competition. To do this, Keolis needed to demonstrate these points:

- An attractive proposition to a potential buyer i.e. the DfT.
- A secure sustainable, continuous improvement in a UK franchise.
- Strategically important to the DfT.

From this document, Keolis can articulate its management and deploys its vision of the EFQM model for the franchise bids. So Keolis chose to develop its EFQM approach through two workstreams:

- EFQM Corporate: it has the objective of continuous improvement throughout the Keolis group. This role of the workstream is to deploy the EFQM model in Keolis France as a whole. The self-assessment approach is used in completely owned subsidiaries (i.e. Keolis Lyon) and various, appropriate divisions of the group (i.e. International).

- EFQM for UK Bids: the aim is to ensure that Keolis is described in the best possible light for UK bids, with the specific objective to be ready for any franchises that come to the market from 2007. The document is prepared for the UK bidding process and focuses on the performance improvement of Keolis franchises and on the value added by subsidiaries to Keolis Group.

This division in two workstreams allows Keolis to have different approaches of the EFQM model. The experience acquired with the UK franchises can be deploys in Keolis Group. On the other hand examples of French best practices can be reused in UK bids when they are comparable and coherent. In this case a benchmarking between the UK and the French franchise can be done. A network of correspondents was established to assist the corporate EFQM workstream with its development activities over the longer term and to support the UK team in the short term with the research and provision of information. That's why three sub-groups were integrated to this network: corporate correspondents from France, Keolis UK correspondents and UK subsidiaries correspondents working in the franchises.

The role of these correspondents was to produce relevant case studies to show the competences of Keolis. These documents must be presented in two distinct formats: the first is a review of EFQM criteria such as Leadership, People, and People Results and the other is a specific based evaluation of a business process like operational performance or customer satisfaction, called RADAR, which is an acronym of "Results, Approach, Deployment, Assessment and Review". This RADAR evaluation system is the method used by the DfT to assess franchises during the bidding process.

IV.1.3: The RADAR logic in the franchise bidding process

The RADAR is a 4-step evaluation tool developed by EFQM to assess the results and processes used by companies. This method focuses on what an organisation needs to do:

- Determine the Results aimed for as part of its policy and strategy making process
- Plan and develop Approaches to deliver the results both now and in the future
- Deploy the approaches in a systematic way to ensure full implementation

- Assess and Review the approaches, including the making of improvements as needed

Each element of this method can be defined through many attributes which help the assessor to evaluate the organisation. In the context of a franchise bid, the DfT is responsible of this assessment. To achieve this difficult task, it has to refer to a checklist of questions for each part of RADAR. This table shows a summary of questions that can be used to assess organisations:

Elements	Attributes	DfT reference questions
Results	trends targets comparisons causes scope	*Why are these results important to the business?* *Are these results a direct consequence of the process and actions undertake by the company?* *Do the results give a relevant picture of the overall organisation?*
Approach	sound integrated	*What is the approach?* *How does this fit with the 'context' of the organisation?* *How does the approach link to policy and strategy?*
Deployment	implemented systematic	*How was this approach implemented?* *Is there a translation of the business strategy to the day to day actions?* *Has it been implemented to its full potential?*
Assessment	measurement	*How do we know that the approach has been effective?*
Review	learning improving	*How did the output from measurement and learning identify, prioritise and implement improvements?* *How the review process is leading?*

Table 5: RADAR system in the context of a franchise bid, source: Keolis UK (2007)

This table explains the RADAR's system according to the DfT point of view. Each element of RADAR is linked to many attributes which describes the way the organisation has to run during a bid. The organisation must respond to all the DfT requirements: to do this, it uses the reference questions to produce its assessment. This method is also used to enter the annual scores of the company. The results are divided into 4 parts that correspond to the EFQM criteria: customer, key performance, people and society results. The other score are distributed according to the enabler criteria of the EFQM model. So as to understand the EFQM approach in railway bid process, it's essential to give a concrete example that shows the deployment and the implementation of these concepts in practice.

IV.2) Case study: the South Central franchise replacement

A) Context

South Central franchise is the other name of Southern which is the commercial appellation. Keolis has operated this franchise since August 2001 in partnership with Go-Ahead (GoVia joint-venture). In May 2008, the South Central franchise bidding process has been launched by the DfT. Indeed the end of the franchise comes in September 2009, so the DfT needs more than one year to lead the franchise replacement process. The indicative steps proposed for the bidding process for the franchise are outlined below:

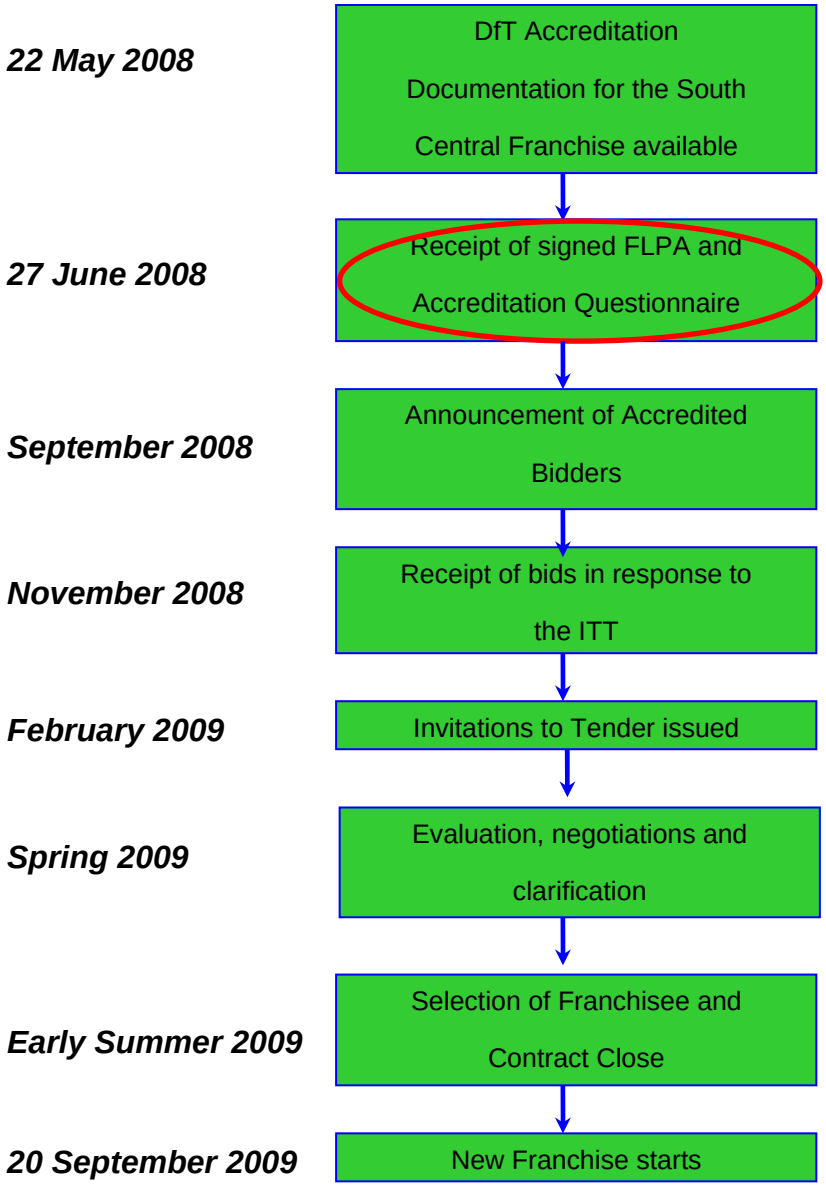

Figure 15: South Central bidding process, source: DfT (2008)

The red circle indicates the step during which I worked on the South Central bid. That's why this part will deal essentially with the Accreditation Questionnaire (AQ) documentation. From this document we will try to understand how the EFQM approach is tackled by Keolis during this stage, what the requirements of the DfT are and how the company integrates them to access to the ITT.

B) The Accreditation Questionnaire in practice

The Accreditation process is the first main stage of the bidding process. Its role is to invited applicants to express an interest to qualify to the ITT. For this, TOCs have to

complete and submit and AQ and a Franchise Letting Process Agreement (FLPA) to the DfT. At the end of this step, DfT expects to invite between three and five applicants to submit a bid.

The AQ is a document in many parts whose main objective is the applicant to present its experience and its expertise in the best way, in order to show it can be a good competitor for the ITT. Frequently, the AQ is constituted by these parts:

- Applicant information: information about the applicant structure and the governance details
- Safety and financial standing: information about financial statements, demonstrable evidence of health and safety policies, and experience in the passenger transport service operation.
- Business Excellence and Approach: examples and illustrations of implemented outputs and their impacts on its continuous improvement. This section is based to the EFQM Model aligned to the DfT objectives in relation with the RADAR method.
- Technical Capability and Experience: Evidence of experience of operating and managing a fleet of safe, reliable and environmentally sustainable passenger trains. This part is divided into sub-sections such as design, manufacture, compliance, commercial, financing, etc.

So this document requires a lot of investments for the applicants. Even if it can easily find examples and information about its expertise, it has to select the most relevant case studies which provide the best way to present the company. To give a good idea of the methodology used by Keolis, we will focus on the third part, to appreciate the EFQM approach of Keolis in the Southern bid.

C) The EFQM self assessment in the Southern AQ

This part deals with a specific part of the AQ which is the EFQM self-assessment. Each applicant has to produce a self-assessment of its activity in conjunction with the RADAR evaluation method. This process is necessary for the DfT to benchmark and give a score to applicant's responses. This document is very controlled by the DfT and applicants have to

respect many rules: for the results sections, applicants should support their answers with at least two years of results with sufficient range to show their capabilities. On the other hand, for the enabler section, examples must provide implemented outputs and their impact on continuous improvements.

We will try to demonstrate pertinent examples of how Keolis (or Govia consortium in this case) apprehends the different parts of the results section:

1. Customer results

This section is very important because it shows Keolis results derived from two different sources:

- National Passenger Survey (NPS): it's a network-wide picture of passenger's satisfaction with rail travel[15] carried out by Passenger Focus which is an independent public body set up by the Government. Its aim is to collect passenger opinions of train services twice a year from a representative sample of journeys.
- Customer Satisfaction Survey (CSS): this is an internal survey implemented by the TOCs within its franchise. In Southern franchise, GoVia is responsible for this survey. Every six weeks, customer satisfaction questionnaires are handed out and collected on Southern trains.

These two surveys are constituted by different criteria. The NPS criteria are divided into two sections: station and train. They include many topics such as cleanliness, security, staff qualifications, facilities, etc. On the other hand, the CSS use nearly the same criteria but this is the company in charge of the franchise which decides of them.

[15] http://www.passengerfocus.org.uk, consulted on 15/08/2008

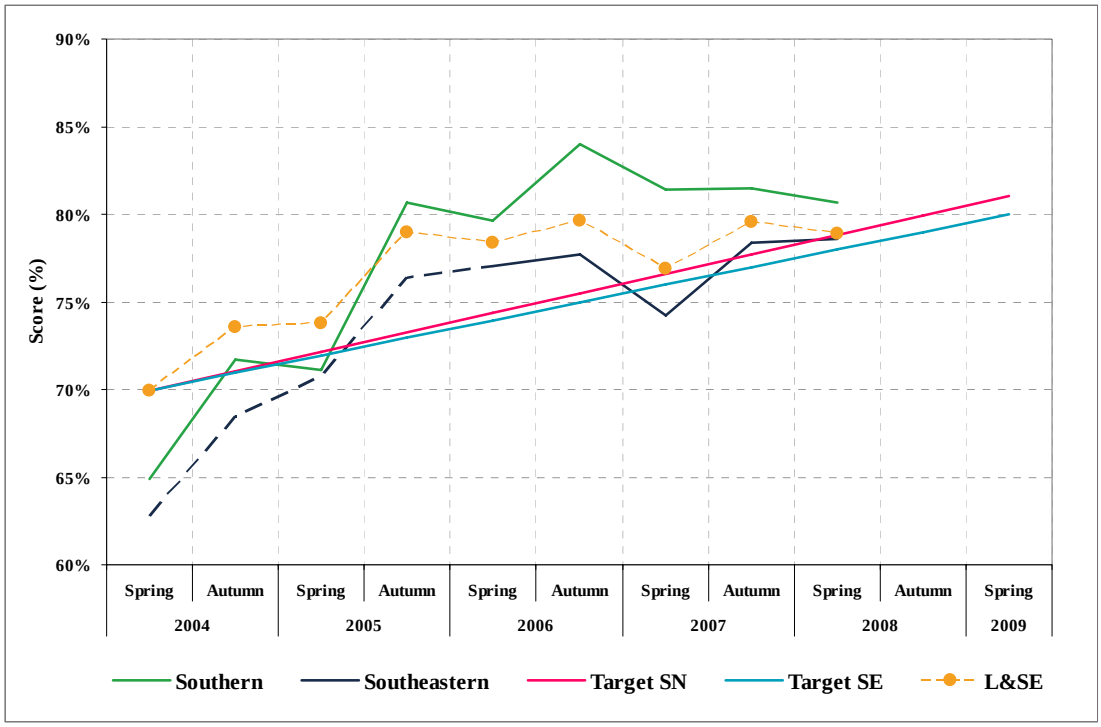

Figure 16: Overall satisfaction from 2004 to present according to NPS results, source: Southern AQ (2008)

This graph is an example of customer results graphs included on the Southern AQ. The score are expressed in percentages and the periods are divided in two waves (spring and autumn). It is constituted with the results of Southern and Southeastern franchises respectively in green and blue. This graph also includes targets for the two franchises. These targets are decided by the DfT for the whole time of the franchise and have to be reached by the TOC. Finally L & SE represents the benchmark of the London and South East franchises that is the average score of all the franchises which are operated in London or in the South East of the United Kingdom. This graph is a good illustration of the improvement of NPS scores in proportion with the DfT targets and the regional benchmark. Indeed it shows a constant increase and the Southern' score have exceeded targets and benchmark scores, and are still above them in the present.

2. Key performance results

The Key Performance part gathers all the results linked to the direct operating of the network by the company. In this section we can find the Public Performance Measure (PPM) which is the percentage of passenger satisfaction. The delays and cancellations of the

franchise are also put on this part. Moreover the Signal Passed At Danger (SPAD) and the incidents are indicated. That's why this part is essential because it shows the punctuality and the reliability of the applicant through many performance indicators.

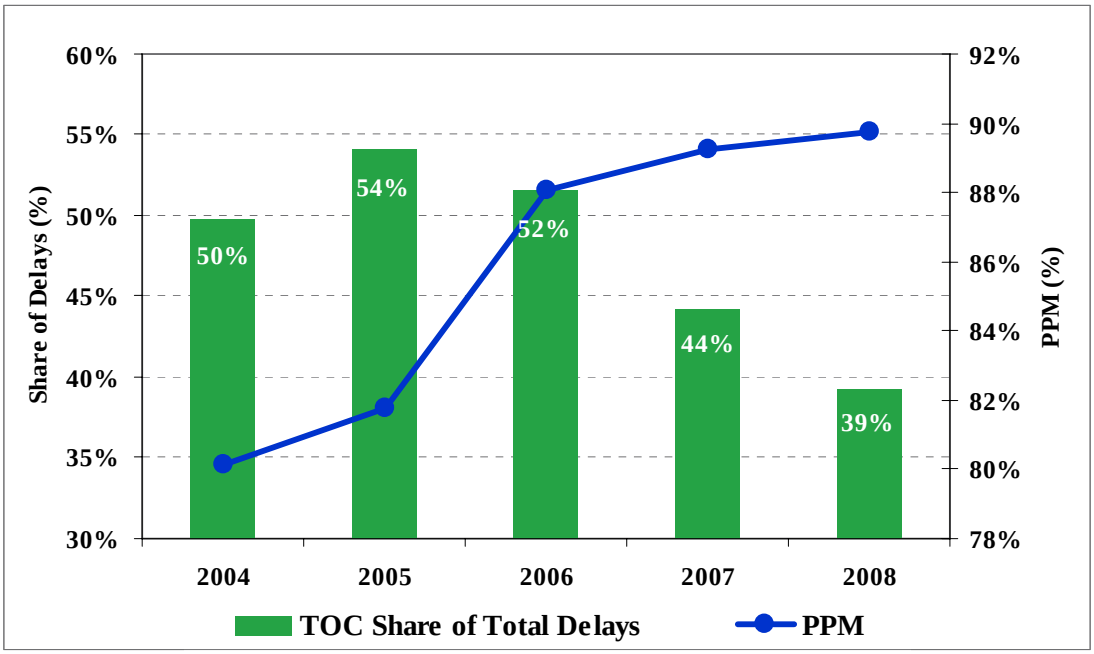

Figure 17: PPM and delays improving for Southern franchise between 2004 and 2008, source: Southern AQ (2008)

This figure shows a comparison between the delays and the PPM evolution for the 5 last years. According to this graph, Southern has decreased its share of total delays and has increased its PPM between 2004 and 2008. This graph is interesting to demonstrate that these two indicators can be linked and that key performance results can have a straight impact to the customer satisfaction.

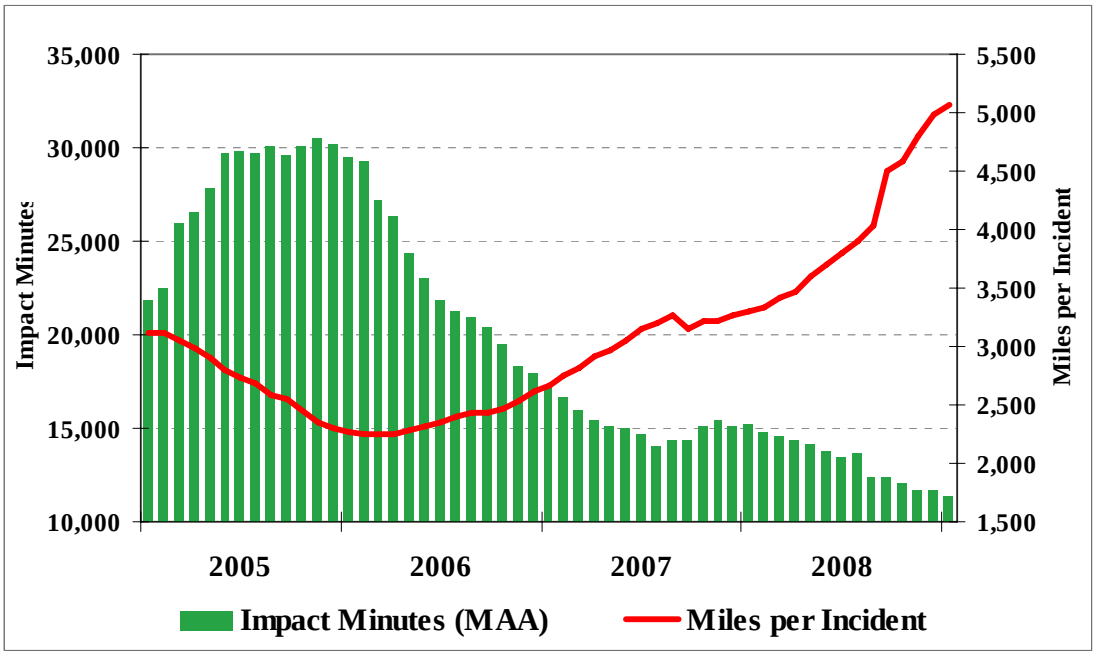

Figure 18: Fleet impact minutes and miles per incident for Southern Franchise from 2005 to 2008, source: Southern AQ (2008)

This is a combined graph of the fleet impact minutes expressed on Moving Annual Average comparing to the miles per incident for the Southern franchise. Fleet minutes are often the biggest cause of TOC delay minutes. From 2006, there has been a decrease of the impact minutes and an increase of the miles per incident that illustrate an improvement in terms of efficiency. This kind of graph is very significant of GoVia's ability to deliver a high quality service.

3. People results

This section is interested in the internal functioning of the company. The term "people" means staff. These results show how the applicant manages its staff and are provided by internal surveys. These measure for example the sickness, the ethnic diversity, and the work conditions of the staff.

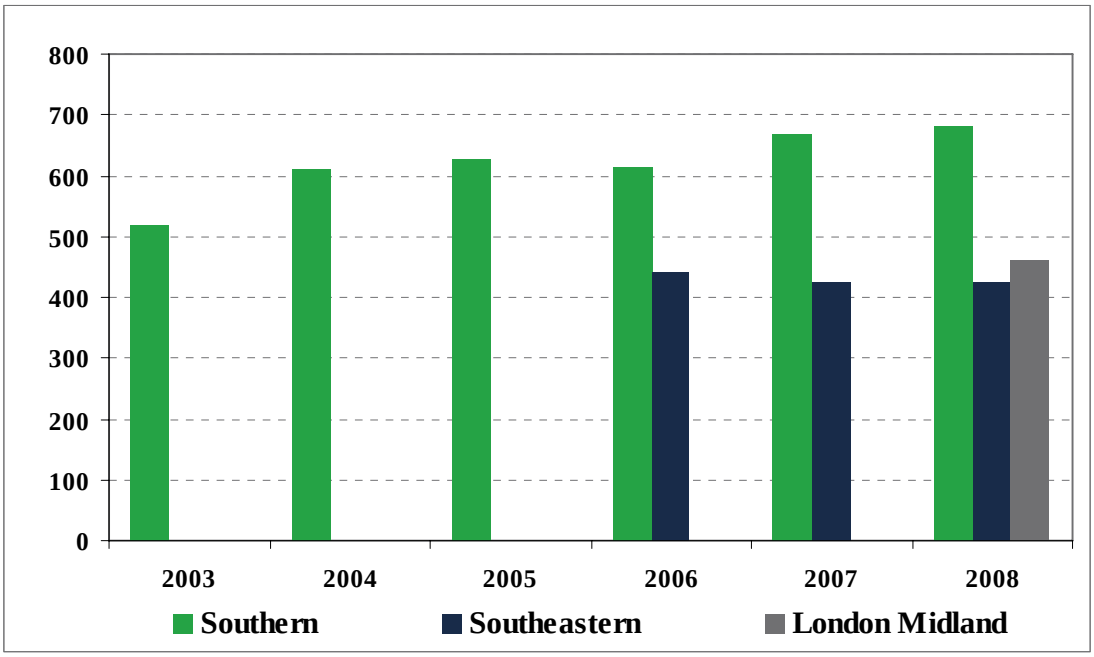

Figure 19: Comparison of the number of employees from ethnic minorities for the GoVia franchises, source: Southern AQ (2008)

This chart gives an example of the people results representation. It shows the ethnic diversity of staff for the five last years for Southern. Figures of Southeastern and London Midland are also introduced to give a benchmark of the other franchises of GoVia. This graph illustrates that the number of employees from ethnic minorities has increased constantly for the last years and are above the otherGovia's franchises.

4. Society results

This last part of the results section contains the statistics of environmental and social issues. For example the energy consumption and the staff diversity by gender are usually used in this section. This figure demonstrates how the company is involved in the community and what its values and its responsibilities are.

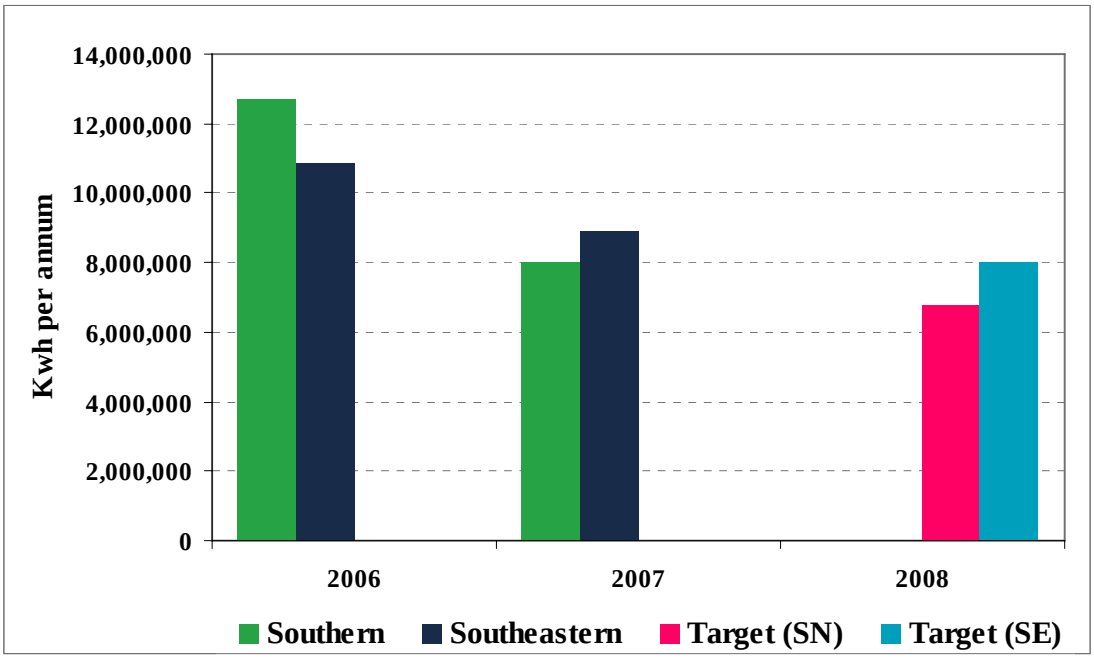

Figure 20: Gas consumption (Kwh per annum) between 2006 and 2008, source: Southern AQ (2008)

This last graph demonstrates the Gas consumption reduction for the last two years for Southern and Southeastern franchises. The 2008 target is interesting to get an idea of the objectives for the environmental issues and show the will for the franchise to reduce its energy consumption.

All these graphs were produced with data which were analyzed and reworked, and had to respect a precise formatting. Only the most relevant have been chosen and put on the Southern AQ.

IV.3) Problems and perspectives for the quality process management

As we have seen, the EFQM Model, and more precisely the RADAR evaluation system, is very important on the Accreditation Process. The applicants have to integrate and to draw on this approach to demonstrate their qualifications and their competences.

Even if this process is a good way for Keolis, it can cause few risks. Firstly EFQM scores can go down unless it can demonstrate continuous improvement. That's why Keolis has to find a long term management which ensure to exceed the targets and the other franchise results. According to Keolis, EFQM has been one of its long-term goals for sustainable development. The other risk for Keolis was the lack of time to implement this method. Indeed all the other competitors had adopted this approach one year before and were ahead of Keolis. Finally the last threat for Keolis was to be excluded from future bids at prequalification, and so reduced its chance to win and operate new franchises.

However, the EFQM assessment gets many opportunities to Keolis. For example this approach provides a good way to demonstrate the good results. It also gives an access to a database of all the best current EFQM submissions. This can be used for a benchmark reference and provides an excellent forum for sharing the practice. The use of EFQM is also considered as a strong corporate strategic orientation and is a stamp of quality management.

To sum up, this approach has many advantages for the applicants as much as the authority. For example it integrates other quality processes such as the benchmarking between the different franchises. It's essential for the company to show in the EFQM self-assessment that it learns from the others. Benchmarking does not necessarily mean global networks and huge expense. There is a great deal of benchmarking information widely available from professional institutions and even on the internet which companies can use easily. In addition it allows comparing and assessing different quality criteria which concern the service and the industrial quality.

The management process of the applicants is also evaluated with this approach. Even if the company presents good results, it must show that improvements are justified by relevant processes which involve the company as a whole. The "what" is not enough and the company has to describe the "how" and the "why" to get a good score.

Keolis UK has made many efforts during since 2004 to integrate this approach. Now the company is ready to provide specific EFQM assessments of its rail business and use this model as a source of competitive advantage and a management tool. But even the company provides good results, it has to stay continuously competitive to establish itself as an efficient group in the UK market.

Now we can ask few questions from these first elements: Is the EFQM self-assessment method transposable in the French bidding process? Is the EFQM model not too restrictive for the self-assessment of the applicants? What could be added to the EFQM approach to become the reference of the quality process? What are the next challenges for Keolis in terms of EFQM approach in railway bids? All these questions are not resolved on this report, that's why it could be interesting to study these aspects on future works.

CONCLUSION

Nowadays the quality process is a key tool in public transport. Many certifications have been created in the last decade and many transport companies have integrated it in their management. Previously the customer was the only target of these quality processes, but now public authorities ask companies to implement them during their contract. This new task is a real challenge for the company to show its competences in term of management, and to improve constantly the service quality.

The old quality certifications target specific sectors of public transport such as processes or service delivery but none suggests a global approach which manages and involves the company as a whole. The EFQM model brought this aspect and gave the ability to the companies to demonstrate their skills and their competences with a new approach. The latter is interested in the results as much as the enablers and the processes. According to this model it becomes easier to compare and understand the different systems of management.

In United Kingdom, the EFQM model is now an essential tool of the bidding process for the railway franchises. The public authority, the DfT, uses it as a system of evaluation to select the best applicants during the prequalification stage of the bid. Keolis, which is now integrated in the railway market, had to make its own approach of this model to keep its chance for the future franchises. Even if this model requires a lot of work for the organisation which implements it, it provides many advantages. When the organisation has assimilated this approach, it can demonstrate its competences and its results and compare them easily with the competition.

Keolis is now ready to show examples and documents which use the EFQM style. This new step in the system management is essential to increase the chance to develop the business and operate new franchises. Keolis is even member of the Rail Community of Practice. Participants of this group are held together by a common interest in business excellence in the rail industry and are driven by a desire and need to share problems, experiences, insights, templates, tools and best practices. This is evidence that the EFQM model can be more than a simple quality process, but is a good mean to think about management systems in passenger transports.

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ABBREVIATIONS LIST

AFNOR: Agence Francaise de Normalisation

AQ: Accreditation Questionnaire

BRB: British Railway Board

CSS: Customer Satisfaction Survey

DfT: Department for Transport

EFQM: European Foundation for the Quality Management

FOC: Freight Operating Companies

HR: Human Resources

ISO: International Organization for Standardization

IT: Information Technology

ITT: Invitation To Tender

L&SE: London and South East

NPS: National Passenger Survey

NF: Norme Francaise

OPRAF: Office of Passenger Rail Franchising

NR: National Rail

ORR: Office for the Rail Regulation

PPM: Public Performance Measure

RADAR: Results Approach Deployment Assessment and Review

ROSCO: Rolling Stock Companies

SPAD: Signal Passed At Danger

SE: Southern

SN: Southeastern

TOC: Train Operating Company

UITP: Union Internationale des Transports Publics

UK: United Kingdom

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Appendix 1: Structure of Keolis UK

Managing Director

Stephane RICHON

Finance

Malcolm Rimmer - Director

Stéphane Pierre – Business Analyst

Pavithra Sekeram – Accounts Manager

Legal

Garry Dunlop – Legal Advisor

Jessica Marquier – HR Manager

Office Manager

Maryline Vigouroux

Southern

Olivier Blanc – Financial Planning

TransPennine Express

Daniel Adamka – Operations Manager

Southeastern

JC Foucrit – Deputy Project Director

Guillaume Suire – Train Procurement

Dominic Rigaux – Driver Training

Business Development

Alistair Gordon – Bid Director

Leila Frances – Bid Director

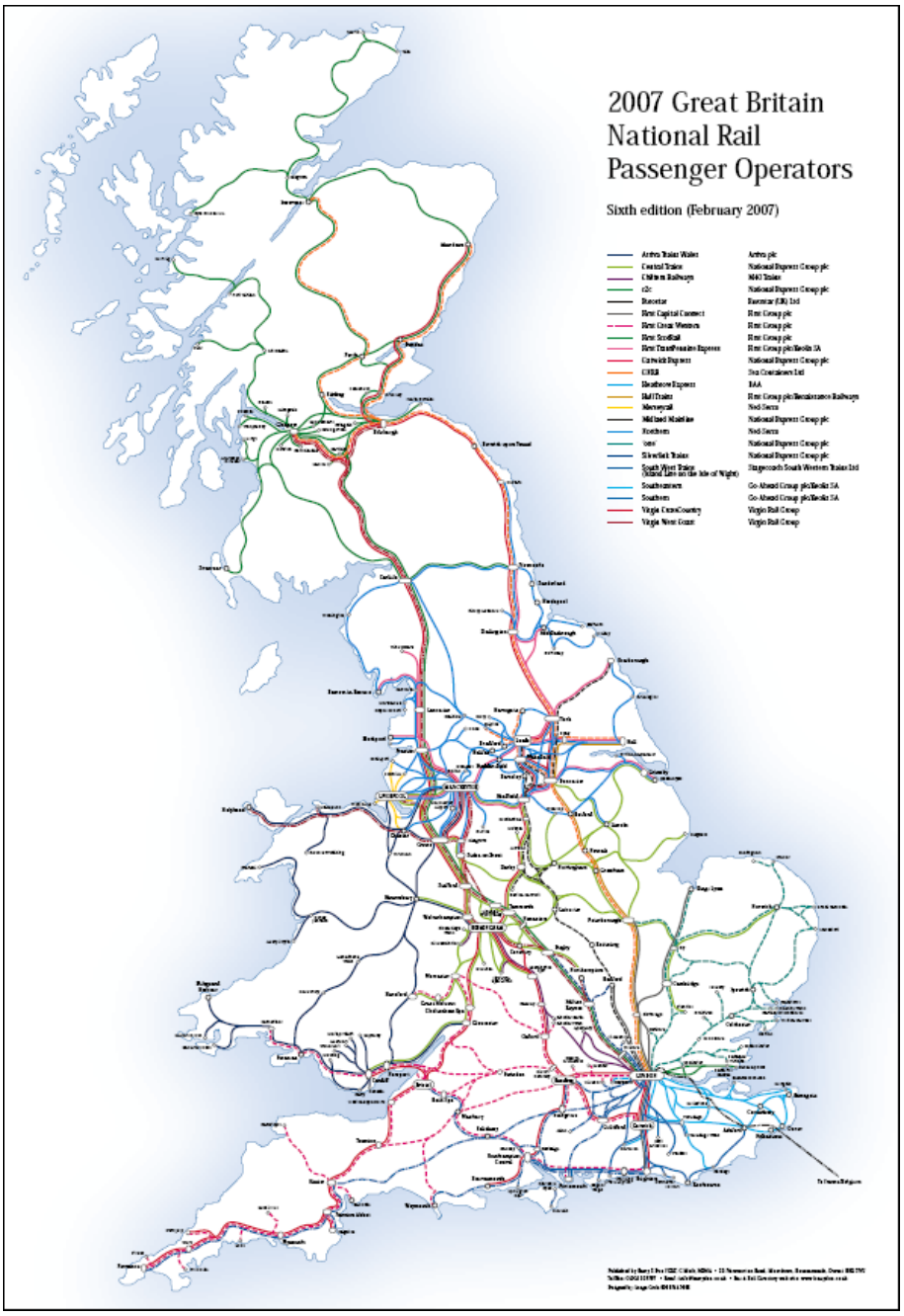
Andrew Harvey - Operations Director

Sébastien Coisplet – Business Development Manager

Corinne Bresson – Project Communication Manager

Roger Harrison – Project Director

Appendix 2: Map of the British rail market



Appendix 3: Franchise replacement process for Southern